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Effectiveness of Educational Program Upon High-School Students' Knowledge and Attitudes Toward Addiction in Al-Najaf Al-Ashraf City

A Dissertation

Submitted to the Council of College of Nursing, University of Babylon as Partial Fulfillment of the Requirements for the Degree of Doctorate of Philosophy in Nursing Sciences

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بِسۡمِ ٱللَّهِ ٱلرَّحۡمَٰنِ ٱلرَّحِيمِ

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صدق الله العلي العظيم

﴿من سورة المائدة الآية ٩٠﴾

Supervisor Certificate

This is to certify that the dissertation entitled: **Effectiveness of Educational Program Upon High-School Students' Knowledge and Attitudes Toward Addiction in Al-Najaf Al-Ashraf City,** submitted by **Hussein Mansour Ali Al-Tameemi** to the University of Babylon, College of Nursing in partial fulfillment of the requirements for the Degree of Doctor of Philosophy in Nursing. The dissertation work was carried out by the student under our supervision and guidance.

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Committee Certification

We, the members of the Dissertation Discussion Committee, certify that the we have reviewed the dissertation entitled **‘‘Effectiveness of Educational Program Upon High-School Students' Knowledge and Attitudes Toward Addiction in Al-Najaf Al-Ashraf City”** carried out by **Hussein Mansour Ali Al-Tameemi** and examined the student in its contents and what is related to it on / / 2021.

We decided that the dissertation is accepted in partial fulfillment of the requirements for the Degree of Doctor of Philosophy in Nursing with an estimation of ( ).

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Dedication

To

- ***Praise be to Allah Almighty first.***
- ***Thanks to my parents for their constant prayers for me.***
- ***I thank my dear wife for her patience and encouragement.***
- ***Finally, a special thanks to my my friends Dr. Mansour Abdullah, Dr. Hussam Muttashar and Dr. Ali Jabbar for their continued support.***

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My sincere appreciation and gratitude are expressed to the staff of Directorate of Education of Najaf for their assistance and facilitation of my research mission.

I also thank the principals, parents, and students who agreed to allow me to collect data for this project.

I was pleased with the students' participation in this study, despite the difficult circumstances they are going through under the Covid-19 pandemic, as well as my appreciation to their families and parents for encouraging them to participate in the program, as I was inspired by their eagerness to gain preventive knowledge against drug addiction.

Also, I would like to recognize the positive efforts and invaluable assistance of the library staff in the Faculty of Nursing.

and Here My real scientific Journey Is started.

Abstract

The high-school students are at an evolving stage of life in which shifting from the previous child-hood to the next adulthood period, thus, suffering from various health difficulties and are at utmost danger for societal, physical or mental disorders, due to great tendency to engage in dangerous activities. Drug addiction usually initiated from this age period, thus, empowering youth with the proper knowledge will be a preventive measure against drug addiction and substance abuse.

The present study carried out by using quasi-experimental design with two groups and over three assessment phases, during the period from 23rd September 2019 to 4th July 2021, with objective of evaluating educational program effectiveness in improving knowledge and attitudes toward drug addiction and substance abuse among students at high-school levels in Al-Najaf Al-Ashraf City.

A total of (70) high-school students divided into two groups, which were enrolled through using non-probability purposive sampling methods. One group exposed to program (study) and the other group did not exposed to the program application (control), and two groups were assessed three times (pre-test) prior program and (post-test 1&2) after conducting program. The results revealed that students from both groups in pre-test had fair knowledge (54% for study and 71%for control) with positive attitudes toward topic of drug addiction (77% for study and 94%for control). However, after application of the program the (post-tests) revealed high significant improvement with (p-value 0.001) in knowledge (80%) and attitude (100%) of students from study group in comparing to control group, which remained at same level of knowledge and attitude toward substance addiction with mild decline.

Furthermore, the study concluded that the education program was effective in enhancing knowledge and attitudes of students concerning

substance abuse and addiction. Besides, it is beneficial to conduct such program in order to protect students from addiction risk.

The study recommended for further modification and application of current program in future besides the need to educate teachers as well as families toward drug addiction issue, and notified the importance of using social media applications as main way to spread awareness against drug addiction and substance abuse due to social media popularity among youth.

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List of Abbreviations

Items	Meaning
ADHD	Attention deficit hyper activity disorder
APA	American Psychological Association
BPD	Borderline personality disorder
CDC	Centers for Disease Control and prevention
COPD	Chronic obstructive pulmonary disease
DSM.5	Fifth edition of diagnostic and statistical manual of mental disorders systems
GST	General system theory
MA	Methamphetamine
NIDA	National Institute on Drug Abuse
OUDs	Opioid uses disorders
SUDs	Substance use disorders
UNESCO	The United Nations Educational, Scientific and Cultural Organization
UNICEF	The United Nations Children's Fund
UNODC	United nation office on drugs and crime
USA	United states of America
WHO	World Health Organization
TOT	Training of trainers

Table of Statistical Symbols

symbols	Meaning
ANOVA	Analysis of Variance
r	Correlation Coefficient
SD	Stander Deviation
SPSS	Statistical Package of Social Sciences
M.S	Mean of score
R. M. ANOVA	Repeated measure of ANOVA
O.P.	Observed Power
SE	Standard error
%	Percentage
NS	Not significant
S	Significant
HS	High significant

Chapter One

Introduction

Chapter one

Introduction

Drug addiction and substance abuse are among most preventable and treatable health problems during adolescence period if proper health programs are available. The World Health Organization estimated that about 275 million individuals have used an illicit drug at least for once (WHO, 2020a; UNODC, 2018).

Referring to report by the World Health Organization (WHO), the worldwide burden of alcohol and drug abuse is more than 5% of the overall disease burden (Alhraiwil *et al.*, 2019).

World Health Organization clarified the term substance abuse as a harmful and dangerous consumption of psychoactive substances, counting alcohol, opioids and illegal drugs (Idowu *et al.*, 2018).

Drug addiction and substance abuse are top priorities for many countries, because it is a problem that has an immense impact on younger generations, especially teenagers (Khushabi *et al.*, 2012).

Although drug addiction and abuse have affected people of all age groups, its impact is more risky and more severe in young people and adolescents (Tshitangano and Tosin, 2016).

Health problems related to drug abuse and addiction are many, including all kinds of cancers, as well as psychological disorders such as depression or personality disorders, problems that may lead to suicide, impotence, and sexually transmitted diseases such as acquired immunodeficiency or viral hepatitis, besides homicide (Mahmood *et al.*, 2019).

Unhealthy and dangerous behaviors are closely connected to the stage of adolescence and youth, where their beginning occurs during that age stage, in addition to the health challenge they pose to societies, which is

represented by the increase in mortality and morbidity rates (Das *et al.*, 2016).

Continuously increasing the dose of drug abuse or consumption is what characterizes substance abuse. Where the adaptation to the substance leads to withdrawal symptoms as a result of stopping its use, and thus the addict fails to quit the addiction. Despite the health dangers caused by addictive substances, addicts continue to abuse them and waste a long time in that, and the person suffering from such a disorder cannot control the dose of drugs he takes (Öztürk. and Ulusahin, 2018; American Psychiatric Association, 2013a)

Substance addiction is a complex mental disorder characterized by compulsive drug use despite efforts to abstain and the negative consequences it has on the individual and their environment (Zapata *et al.*, 2019; Sussman and Sussman, 2011).

Addiction, according to what has been published in the scientific literature, is well-defined as the process of losing control over the use of psychoactive drugs, in which a person continues to consume the substance despite its dire consequences. And addiction is familiarized as a neuropsychiatric illness (Zou *et al.*, 2017).

With the spread of drug addiction it becomes epidemic in all societies, getting substances such as alcohol, drugs and cigarettes (tobacco) has become easier, and all of this has led to economic and social costs, not to mention the emotional as a consequence of the increase in illnesses and deaths and the high levels of crime related to drug abuse (Zou *et al.*, 2017).

As well as, illicit drugs consumed are varied and includes (inhalants, hallucinogens, cocaine, anabolic steroid, Methamphetamines, heroin as illegal opioid, etc…), while even prescription drugs also misused such as opioid as pain reliever and antidepressant drugs (Levy, 2019a).

What distinguishes the adolescence stage are the accelerated developments physically, psychologically and socially as a result of the human transition from childhood period to adulthood period (Mitchell *et al.*, 2013).

As a result of these changes mentioned, the adolescent will be directly affected in the later stage of life, and therefore the scientists considered it a critical age stage. As for unhealthy behaviors that are dangerous to the health of the individual in particular and the health of society in general, they are the reason that drew attention to adolescents because such behaviors often start from this period, including the problem of addiction and drug abuse which has a diverse dimensions on health of youth (Turhan *et al.*, 2011; Erginoz, 2008).

With regard to the issue of initiating addiction or drug use, some studies indicated that more than eighty percent of addicts or drug users and other substances such as alcohol or tobacco ranged between 16 to 20 years, while the second percentage was for adolescents under 15 years of age (Shrestha, 2008).

According to studies, adolescents resort to using and addicting substances with narcotic effect for various reasons, including thinking that they are for entertainment and excitement or as a result of social, emotional and academic pressures, and also to evade facing problems, not to mention the issue of rebellion and challenging the societal environment and traditions (Akfert *et al.*, 2009).

High school students are at the peak of adolescence period. Regarding drug and substance abuse, adolescence is a critical period of life and considered risky period. Where the risk of addiction reaches the highest levels and this period is characterized by the ability of the teenager to adopt behaviors that threat him or her psychologically, physically and socially (Levy, 2019b; Kachel *et al.*, 2018; CDC, 2017).

Patterns of healthy human behavior are formed during this age before the transition to adulthood and are characterized by physical social and mental changes (Alhyas *et al.*, 2015). As an adolescent student is influenced by his peers and has an increased tendency to adventure and as a result of the inevitable adolescent will be prone to abuse of substances and opioids (Al-Hemiery *et al.*, 2017).

Hence, school students who are abusing drugs are vulnerable for diverse of negative consequences, such as sexual abuse, infectious disease, and legal problems. So that, the need for programs that prevent these serious consequences intensified to protect those adolescence life from drug addiction and substance abuse (Shrestha, 2008).

1.2. Importance of the Study:

Globally, the health systems of countries around the world are facing a serious challenge to drug and opioid abuse. Almost, 6% of the world's population aged between 15 and 60 years have used illicit drugs or opioids (approximately 280 million worldwide). Furthermore, mortality or exposure to overdose due to drug abuse in Central Asia as well as Eastern Europe is very large, and it contributed to a reduction in the life expectancy of population (Mohebbi *et al.*, 2018).

Internationally, tobacco use and addiction to nicotine is one of the main reasons of death, as well as it is the main cause of unhealthy lifestyle diseases where these diseases can be prevented (these diseases include coronary heart disease, and chronic obstructive pulmonary, as well as asthma, lung cancer, etc…) (Abdulateef *et al.*, 2016; Maziak, 2014).

Globally, alcohol is the most addictive substance, but it is acceptable to many societies except Islamic ones (Ciubară *et al.*, 2015a). Consequently, Around the world, addiction to alcohol consumption kills three million people, which represents more than 5.3% of all deaths (WHO, 2018c).

According to several studies, especially in the United States of America, millions of addicted adults had a history of early drug use during adolescence, and at least 12% of high school students used alcohol even once. It is worth noting that many deaths from infectious diseases such as AIDS, viral hepatitis, and others are closely related to addiction. Also, The consequences of substance use are multifold, complex, and so comprehensive that the impacts can be difficult to stratify (Ignaszewski, 2021).

There has been an alarming increase since 2009 in the prevalence of alcohol and substance abuse among Iraqi youth and adolescents, according to the Epidemiology Working Group in Iraqi Society (Al-Hemiary *et al.*, 2014). Recently, numeral evidences propose that substance abuse has increased in Iraq, particularly in early ages of adolescence (Al-Hemiary *et al.*, 2015).

Experiments have proven that the best solution to combat drug abuse and addiction is to find suitable programs that work on prevention and early intervention, especially for young groups in society. Where the basis of the work of these programs is usually by giving them health information that enables them to avoid this matter by relying on their self-efficacy and secondly by identifying who are most vulnerable to addiction (Uzun and Kelleci, 2018; Albayrak and Balci, 2014).

Unfortunately, in Iraq there are lack in recent or comprehensive studies and shortage in statistics on the extent of drug abuse, addiction or substance abuse (Al-Hemiery *et al.*, 2017).

Addiction control is a worldwide concern, according to world health organization (WHO) adolescent aged 15 to 19 are at the center of focus for effective interventional programs on individual and community levels (WHO, 2018b).

Persuading individuals to adopt healthy behaviors is the key role of nurses. Hence the importance of the role of the nursing profession in

combating addiction and substance abuse. The assistance provided by nurses includes various aspects such as the transfer of health knowledge, helping individuals to self-monitor their health and providing preventive guidance. The nursing profession and its staff also play a main role in identifying barriers and impediments to the implementation and adoption of healthy behaviors, as well as positive support for the health behavior of individuals (Berman *et al.*, 2016).

Community health and development cannot be separated from human health as an individual. Consequently, the character of society and the health of the community are linked, as well as affected by everything that threatens and poses a threat to the health of individuals. Quality of life is also influenced by drug abuse and addiction, and therefore prevention and education programs are essential to promote health for the individual and society. This results in a healthy society that provides health services for the treatment, prevention and rehabilitation of the population and leads to a healthy society safe from health risks (Sarami *et al.*, 2009).

Knowledge of drug addiction and substance abuse is very important matter in public health, because high school students are at peak level of adolescence which it’s a period of life characterized by naturally motivated mind to explore the world and new things, and more vulnerable to issues like drug addiction or substance abuse (Adibelli and Olgun, 2016; Lazzara, 2020; Mehanović *et al.*, 2020).

Regarding knowledge and attitudes about addiction, many countries around the world have worked on community-based measures and programs to improve knowledge and attitudes towards this growing health problem. Such programs are usually aimed at protecting and preventing individuals from consuming illicit drugs and opioids, especially among adolescents and young people, because they constitute the largest proportion of groups at risk

of addiction due to lack of life experience and lack of health information (Geramian *et al.*, 2014; Sarami *et al.*, 2009).

The foregoing emphasizes the importance of the research problem on addiction and substance abuse. Studies that address the current problem in Iraq are less than the number of fingers in the hand. The problem of addiction, as mentioned earlier, is a global problem for adolescents who consider the future generation and such educational programs improve the possibility of adopting this kind of unhealthy behaviors in the future. Such a study can also be applied to university students and even to different groups of adults in the near future.

Thus, the current study tries to suggest an effective and implementable educational program for high school (upper secondary school) students in order to provide them with appropriate knowledge for, and positive attitudes toward drug addiction and substance abuse, which will enable them to pass this life stage without falling as victim to addiction.

1.3. Statement of the Problem:

"Effectiveness of educational program upon high-school students' knowledge and attitudes toward addiction in Al-Najaf Al-Ashraf City."

1.4. Objectives of the Study:

1- To assess the pre-test knowledge and attitudes of high-school students regarding drug addiction and substance abuse

2- To determine the effectiveness of planned teaching program upon study groups knowledge and attitudes regarding drug addiction and substance abuse.

3- To evaluate and compare the knowledge and attitudes levels among participants (post-test) for both groups (study and control).

4- To find the association between post-test levels of knowledge and attitudes with participants socio-demographic variables.

1.5. Definition of Terms:

1.5.1. Effectiveness:

A. Theoretical definition:

Effectiveness is the power to produce the desired result, which is often measured as the quality of the desired result. In another term, it is focus on the effectiveness of the intervention in the normal circumstances of a clinical trial, through an intervention designed to be effective in studying efficacy (Wilson *et al.*, 2018; Al-Hchaim and Hamza, 2016).

B. Operational definition:

The word effectiveness indicates the comparison of the significance difference in the knowledge levels of the study and control groups before and after conducting the educational program, and thus determining the extent of knowledge acquisition in the program.

1.5.2. Educational program:

A. Theoretical definition:

An educational program is a systematic developed and designed educational intervention (for instance as learning-teaching strategies, instructional materials, presentations and programs,) as solutions for complex problems in educational practice, which also targets at progressing human knowledge toward selected issue (Plomp, 2010).

An educational program must encompass a precise goal, and have a well-defined content regarding primary discipline, use a particular delivery means, and designed to target a most important audience of issue (CEC, 2019).

B. Operational definition:

It refers to a planned educational program that constructed systematically to provide knowledge and information about drug addiction and substance abuse for high school students to increase their knowledge levels and to influence their attitudes toward this issue.

1.5.3. Knowledge:

A. Theoretical definition:

Any information that is acquired through education or practical experience (Al-Tameemi, 2016).

B. Operational definition:

Students' information about drug addiction and substance abuse, which is measured by their ability to answer correctly the self-administered questionnaire.

1.5.4. Attitude:

A. Theoretical definition:

The definition of attitudes is a general framework, in which a human regulate his feelings and knowledge about a subject, matter or person according to it.. Attitudes can also be referred to as the process of evaluating an individual, either positively or negatively, toward a group or individual, a particular issue, or even a particular object. Therefore, attitudes issues short judgments, resulting from feelings, knowledge, or actions emanating from the target objects. (Videbeck, 2020a; VandenBos, 2015; Griggs, 2012)

B. Operational definition:

Attitudes of high school students in the current study measured by their responses to attitude questionnaire, which will be either in negative or positive direction.

1.5.5. High school student (Upper Secondary Student):

A. Theoretical definition:

According to the classification of UNESCO (affiliated with the United Nations Organization), Upper-Secondary Education is defined as the second and final-stage of secondary and formal education, aimed at students between 16 to 18 years, and it precedes higher education for adults. It also usually provides a set of options that include either preparation for university

education or employment (United Nations Educational Scientific and Cultural Organization Institute for Statistics: UIS, 2011)

B. Operational definition:

Students from High school (Upper Secondary school) who agreed to participate in the study and aged between 16 to 18 years old.

1.5.6. Addiction:

A. Theoretical definition:

Drug addiction is a medical and psychiatric disorder, which usually encompasses both psychological and physiological components and characterized by compulsive use of addictive substances. In fact, recently the term substance abuse become more common in use than the formerly drug addiction. Substance abuse is maladaptive manner of psychoactive substances use accompanied by serious and recurrent side effects, with the fact that substance abuse symptoms usually appears before symptoms of dependence (Lago *et al.*, 2017; Newton, 2017).

B. Operational definition:

Addiction measured in light of students' responses to instruments' knowledge and attitude toward topic of addiction.

Chapter Two

Review of literature

Chapter Two

Review of Literature

Throughout this chapter, the previous literature related to substance use disorders (SUDs) will be reviewed.

It is worth noting that the literature review is a summary of most of the applied and theoretical sources and references related to the problem under study, with the aim of forming a perception about the available knowledge on the subject and the aspects that are not studied at all or not adequately researched, and thus clarify the research problem in a better way and prepare Available knowledge for use in the application of the study (Bomer-Norton, 2018; Nieswiadomy and Bailey, 2018).

Throughout the present study, previous literature was reviewed and written according to the following sections:

2.1. Historical review of drug addiction and substance abuse.

2.2 Epidemiological review of major addictive drugs:

2.3. Concepts of substance abuse and drug addiction.

2.4. General information of major addictive substances (included in study).

2.5. Physical effects of substance abuse and drug addiction.

2.6. Psychological and mental effects of substance abuse and drug addiction.

2.7. Social and economic effects of drug addiction and abuse (person, family and community).

2.8. Tobacco and Alcohol (addiction and abuse): including physical, psychological and social effects.

2.9. Causes, prevention measures, treatment and nursing intervention of substance addiction and abuse.

2.10. Attitude toward substance abuse and drug addiction.

2.11. Previous studies regarding substance abuse and addiction among high school student.

2.12. Theoretical Framework.

2.1. Historical review of drug addiction and substance abuse:

The process of harvesting opium historically dates back to ancient times, approximately 3400 BC. The region extending from Afghanistan through Pakistan, the northern regions of India and state of Burma in the Asian continent still represents the largest source of opium production in the world. (Makovnyka, 2020; Santella and Triggle, 2007).

There are seventeen different discoveries of "Papaver somniferum" plants in archaeological sites in European countries, dating back to human settlements during the late Neolithic Age, including countries such as Germany, Spain and Switzerland, where a large number of buried Papaver seeds were found in one of the archaeological sites in Spain, Approximately 4200 BC. There are also other discoveries of opium during the Iron and Bronze Ages (Booth, 2013).

As for the history of opium in Iraq, the evidence indicates that about 3400 BC the Sumerians cultivated this plant, where they called it (the plant of joy). In the archaeological site of a religious and spiritual center of the Sumerian civilization in Nippur (southern Iraq), clay tablets were found on which it was written that the juice of the poppy plant was collected in the morning, and opium was produced from it (Salavert *et al.*, 2018; Zarghami, 2015; Teall, 2014).

As well as, the Assyrian and Babylonian civilizations in Mesopotamia, where they continued to cultivate this narcotic plant, extract opium juice, and use it in medicine and witchcraft. As for the Egyptian Pharaohs, they limited the use of this drug to certain classes, such as priests, warriors and sorcerers (Khademi *et al.*, 2016; Fascha, 2011).

Arab merchants transported opium to India between the fourth century AD and the twelfth century AD. As for China, opium was introduced to it by the seventh century AD (Haynes, 2014). Also the Persian physician of

Muhammad ibn Zakariya al-Razi in the ninth century AD, used Opium for anesthesia and depression treatment, providing patients with a medical guide for home treatment in the absence of a doctor (Fascha, 2011; Tibi, 2006)

Opium and mandrake were used as an anesthetic during surgeries by Abu al-Qasim al-Zahrawi, a famous Andalusian eye surgeon who wrote the article "Al-Tasrif", which had a profound impact on the medical community during the sixteenth century AD (Ali *et al.*, 2017; Najjar, 2010; Ahmed, 2007).

Opium has been described as the strongest plant that causes sedation and drowsiness by Sheikh Ali bin Hussein, "Avicenna", compared to other herbs used for anesthesia, such as mandrake. In his book Canon of Medicine, Avicenna detailed all the side effects and medicinal uses of the opium plant for example hypnosis, its side effects on the intestine and stomach, psychological effects such as depression, pain relief, sexual problems, and others. He also mentioned the possibility of using opium as a lethal poison and Avicenna identified clear ways to use opium as a treatment and determined the amounts and dosages appropriate for its consumption. And his texts remained widely adopted at the beginning of the nineteenth century AD and translated into many languages of the world. Also, during the period of the Ottoman Empire, opium was used to treat sciatica, severe pain, and migraine (Ali *et al.*, 2017; Heydari *et al.*, 2013)

Historically, one of the most prominent examples of the influence of drugs, especially opium, is what happened in China during the seventeenth century. Although opium was known to the Chinese people since the seventh century AD in China, it was prohibited until the seventeenth century, once opium addiction became rampant in China, where it was mixed with tobacco and smoked, which caused a disaster for the Chinese nation (Chin and Zhang, 2015; Ebrey, 2010).

One of the worst historical examples of drug addiction and its devastating physical, psychological, social, and economic effects is what China experienced, especially opium wars that spanned two periods during the eighteenth and nineteenth centuries AD. As the colonial countries realized the importance and the amount of profits they would gain from the spread of addiction in Chinese society without regard to the moral consequences of the opium trade (Luqman, 2014; Wright, 2014; Ebrey and Walthall, 2013).

In a cemetery located in the northwestern region of China, archaeologists found the remains of the cannabis plant, which were in a morphologically intact condition, and specialists concluded that it was about 2,800 years old, which proves that the ancients used cannabis or hashish in their religious and therapeutic rituals. (Ren *et al.*, 2019; JIANG *et al.*, 2016).

It is reported that Herodotus, the famous Greek historian, mentioned in his writings that cannabis was used in the recreational practices of addicts through smoking it in the historical period extending five hundred years before the birth of Christ. (Clarke and Merlin, 2013)

Despite the evidence that cannabis was used for ceremonial purposes or in pagan rituals, there is much evidence that it was used to treat many diseases, as was the treatment of tetanus and some mental disorders with this plant. As for the widespread abuse and addiction in its present form did not exist in ancient times (Stomp, 2021; NAS, 2017).

There was a dispute in the historical sources as to whether India or China was the first to grow cannabis, but both countries are located in Central Asia and no doubt because of their proximity, the plant was present in them, but India is considered one of the richest countries in diversity in terms of varieties and strains of cannabis (Pisanti and Bifulco, 2019; Kuddus *et al.*, 2013).

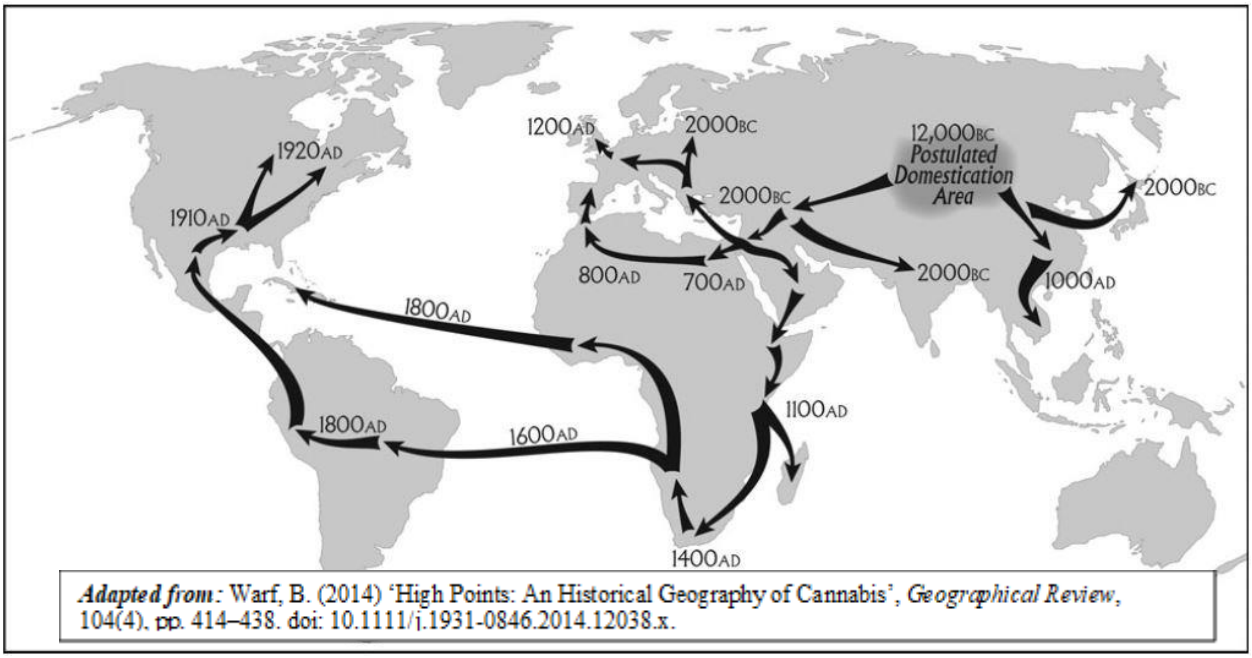


Figure 2.1. ancient roads for cannabis trade.

As with opium, Arab traders transported cannabis from China and India to other parts of the world such as Africa and Europe (figure 2.1). Also, the Muslim doctor Ibn Sina prescribed cannabis to treat severe headaches, as well as eye infections and gout. The Arabs also used cannabis oil. And many other uses, as Muslim and Arab scientists excelled in benefiting from the medicinal properties of this plant away from abuse, and they transferred this knowledge in the dark Middle Ages to Europe before it entered the practices of some Muslim groups, such as the Sufis in Egypt and the Assassin Ismailis (Pisanti and Bifulco, 2019; Warf, 2014; Waines, 2010).

During contemporary history, especially the nineteenth century, the use of cannabis for medical aims became common, but it was dispensed with by the twentieth century, and it was deleted from most pharmaceutical and medical books for many ethical, economic, political, and also social reasons, and strangely with the start of the millennium As a result of many studies on the medicinal benefits of this plant, it has re-emerged and used again, despite being one of the most important resources of the illegal drug trade globally. Even countries such as Canada have legalized the medical use of it and smoking it under certain conditions, despite the ethical dilemma facing this

matter (Pisanti & Bifulco, 2017).

Historically, the leaves of the coca plant are considered part of the life of the peoples of the Andes Mountains in Latin America, and they are a very popular drug in the modern era, but unlike the rest of the species, its history was not addressed in ancient times. However, the peoples of South American countries, before the advent of the Westerners, chewed the leaves of this plant, which Stimulates and activates the nervous system strongly, and it is dangerous. Pieces of this plant were found with mummies in the state of Peru. It was first discovered by the colonial Spaniards and was used during the seventeenth century for limited medicinal purposes such as dentistry, treating festering or worm-infested wounds, as well as strengthening broken bones and treating swelling (Bezerra *et al.*, 2020; Gootenberg, 2019; Broe, 2018).

The discovery of amphetamine was made at the end of the nineteenth century by a Romanian chemist, who collected the first base material for amphetamine and did not pay attention to what he made, as other chemist at his age he wanted to manufacture a kind of dye, not a strong chemical drug. This was followed by a Japanese scientist in the field of chemistry, who extracted from the medicinal herb ephedra used in China, ephedrine and pseudoephedrine, and pointed out the toxicity of these substances with their usefulness in topical use, such as dilating the pupils of the eye. Until the year 1932 AD, when the American chemist Alice discovered a compound stronger than ephedrine and more useful in treating asthma, and as a result he obtained a patent for amphetamine. (Rasmussen, 2015; Lee, 2011). Until this day, amphetamines are still manufactured illegally and exported to the black market (UNODC, 2014).

2.2. Epidemiological review of Major addictive drugs:

Illicit drugs (opioid, cannabis, methamphetamine, cocaine):

Misuse of, and addiction to, opiates are an important source of public health concern for the community. The opium epidemic did not spare young adolescents and had the largest impact on them. A study in the United States in 2015 showed that one-fifth of American teenagers had substance abuse and in 2017 a subsequent study exposed a noteworthy rise in the use of these drugs, likewise, the study reasoned this increase to the low adolescent perception of risk. Most widespread occurrence for the excessive doses, leading to death, in the United States of America also remarked. The average of fatality rate every year increased "between" 1999 to 2006, especially for ages ranged fifteen to twenty-four years old (approximately from 1 for each 100,000 persons to become 4 for each one hundred thousand person) of drug abusers. Likewise, a national American survey revealed every year, almost twenty thousand American teenager aged (12 to 17) become opioid drug addicted (Kulak and Griswold, 2019; Edlund *et al.*, 2015).

Available data indicate that approximately 5% of the world's population uses cannabis on average for people over 15 years old, as well as approximately 6% of school students around the globe consumed this drug. Note that after alcohol, addiction to cannabis is the most prevalent of all illicit drugs, especially in developed countries. Globally, and according to some estimates, there are more than 183 million addicts and abusers of cannabis. (Abdel-Salam, 2019; Wilson *et al.*, 2019; Iede *et al.*, 2017)

Studies have indicated that abuse of almost all types of cannabis initiates in adolescence or early adulthood. In recent years, it has been observed that the average age for starting cannabis use has decreased significantly, meaning that teenagers have started using this drug at more early ages, which has caused widespread concern amongst youth due to its dangerous dimensions and effects (O'Loughlin *et al.*, 2019; Tejedor-Cabrera

and Cauli, 2019; De Luca *et al.*, 2017). Studies, have also proven that addiction to cannabis is a gateway and a precursor to addiction to various illicit drugs for instance cocaine and heroin (Lecca *et al.*, 2020). With regard to the prevalence of abuse and addiction to cannabis, the regions of the tropical Pacific Islands, Central Africa, North America and Western Europe occupied the lead in consumption with rates (12.4%), (12.4%), (10.7%), (7.6%), Respectively (De Luca *et al.*, 2017).

Globally, after cannabis, methamphetamine (MA), or meth (crystal meth), is the most widespread illicit drug. Moreover, the abuse of these types of drugs, especially in Southeast Asia and the North American continent, causes serious health, social and economic problems. In 2018, more than 37 million people consumed amphetamines, of course, according to estimates by the United Nations Office on Drugs and Crime (UNODC), while China recorded the highest consumption of this drug. (Su *et al.*, 2018)

Health data of some countries around the world indicate that high school students who abused amphetamines ranged between 5% to 12% of the total number of students, which is equivalent to one for every ten students, while their age group ranged from ten to eighteen years (Sayyah *et al.*, 2018).

According to UNODC, in 2008 55 world countries reported seizures due to (MA) consumption, this number increased in 2016 to become 74 countries. As well as, South East Asia and north America are the foremost regions of the world in (MA) abuse (UNODC, 2018).

After heroin (type of opium), cocaine is the second most very harmful illicit drug consumed by adolescents in some countries, but in lower rates than cannabis. It is most common in Latin America followed by North America. Worldwide estimates refers that about 20 million person are consuming cocaine. For instance, a survey in in United states of America (USA) referred that adolescence and young adults (age 12 – 25) prevalence

rates for cocaine intake elevated from 2% in 2017 to 6.5% in 2018, which is a dangerous alarm (Elflein, 2019; Ryan, 2019).

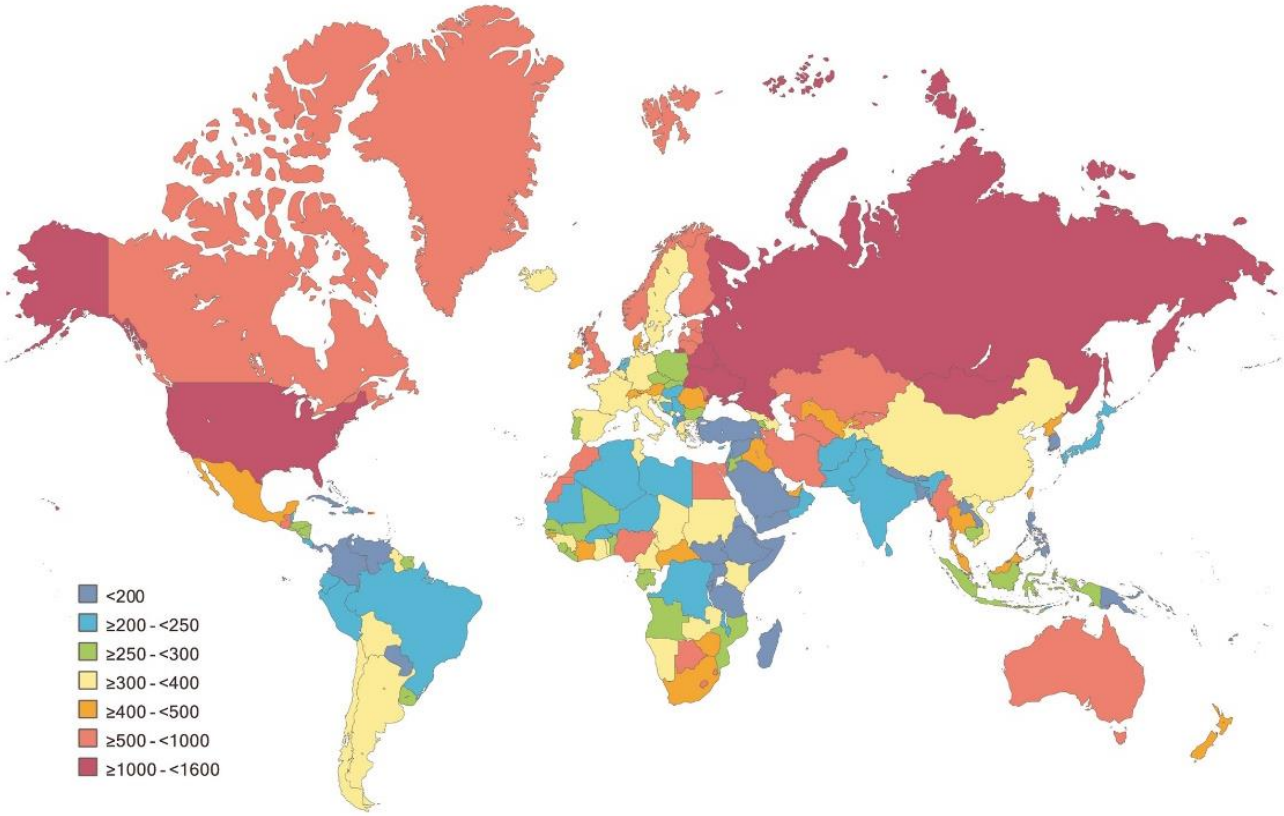


Figure 2.2: This map shows distribution of illicit drug consumption rate per 100 000 population by country in 2015, Based on Global Burden of Disease (GBD) statistics. ***Adopted from*** (Peacock *et al.*, 2018) ***Global statistics on alcohol, tobacco and illicit drug use: 2017 status report. Addiction, 113(10), 1905–1926.***

Addiction to Tobacco (Nicotine):

World Health Organization statistics indicate that more than a billion people in the world are smokers. At the global level, there is an increase in the tobacco use, especially in developing countries, and it kills more than half of smokers, that is, about five million people annually, and at the rate of one person for every six seconds and globally, it represents one for every ten deaths. (Magitta, 2018; Zabadi *et al.*, 2018). Figure 1.2. shows the worldwide tobacco consumption prevalence among male youth.

According to estimates issued by the (WHO), smoking starts during early adolescence, especially with an average age of 11 years, and the prevalence among adolescents over 15 years is 20% (Vázquez-Nava *et al.*, 2017). Several studies indicated increase in percentage of smoking

adolescence particularly in Middle Eastern countries including Arab countries and Iraq (Al-delaimy and Al-ani, 2020; Reitsma *et al.*, 2017).

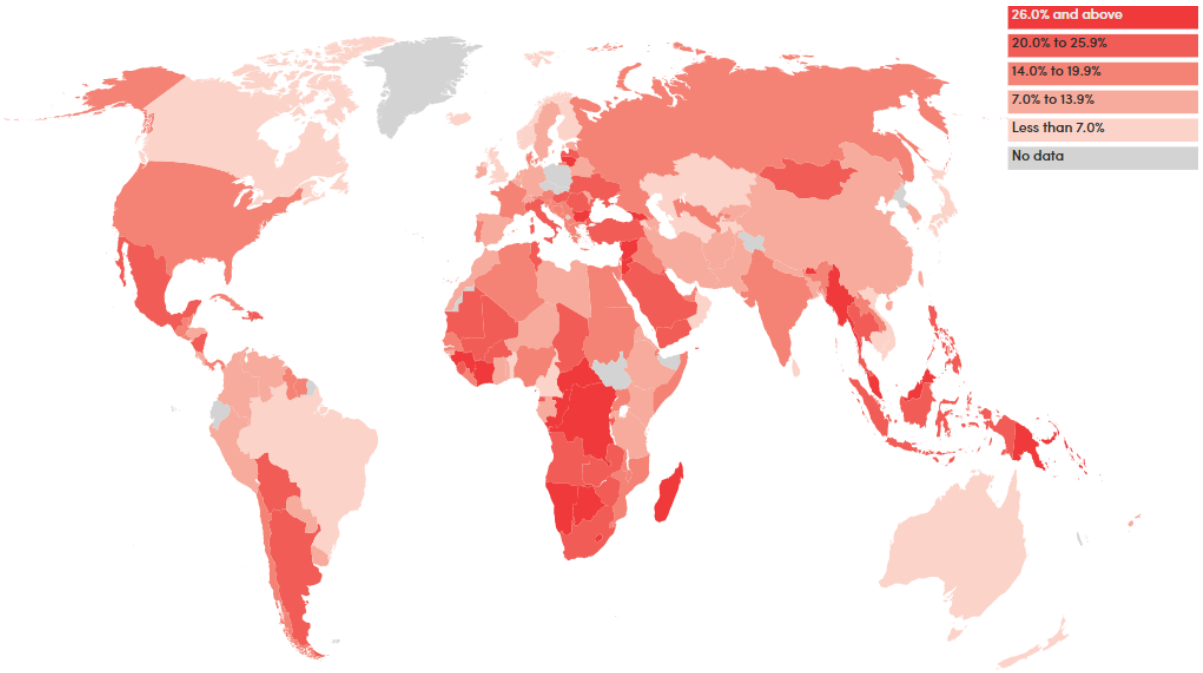


Figure 2.3. Global prevalence of tobacco consumption among male youth. ***Adopted from*** (Drope *et al.*, 2018) ***The Tobacco Atlas 2018, 6th edition, by American Cancer Society Accessed 2nd, April, 2020***. https://tobaccoatlas.org/topic/youth/

Addiction to Alcohol:

With regard to alcohol consumption, the youth category is subject to greater problems as a result of this matter. Moreover, future indications indicate that starting alcohol consumption at an early age causes major health, economic and social problems for this age group (Granville-Garcia *et al.*, 2014). Over the years, studies have shown the emergence of problems with adaptation, deviant behaviors, weakness in cognition and psychological problems such as depression and anxiety among young alcoholics (Carbonneau *et al.*, 2017).

Statistics indicates that prevalence of alcohol consumption in the 15 to 19 age group reflect the actual rates of alcohol consumption from the total population in any country. According to statistics in the WHO regions, the European region has the highest rate followed by the Americas region and then a West Pacific region and finally the Eastern Mediterranean Region (which has the lowest rates); and prevalence rates are (43.8%), (38.2%),

(37.9%) and (1.2%), respectively. Globally, in general, (26.5%) of all adolescents who are between fifteen to nineteen years, drink alcohol, which is equivalent to approximately 155 million adolescents around the world (WHO, 2018d).

Therefore, Western countries (Europe, Australia, USA and Canada) showed increasing in number of adolescence experiencing alcoholic substances particularly in last few decades. (Pedersen and Von soest, 2015; Granville-Garcia *et al.*, 2014).

A study in Iran among medical group students showed that the prevalence of alcohol use was 6.9%, while a survey study in Lebanon indicated that approximately 11% of the study participants were alcoholics. As for Iraq, despite the importance of the subject, it has not been sufficiently studied, as is the case with most developing countries (Al-Ameri *et al.*, 2016; Abbasi-Ghahramanloo *et al.*, 2015; Ghandour *et al.*, 2014).

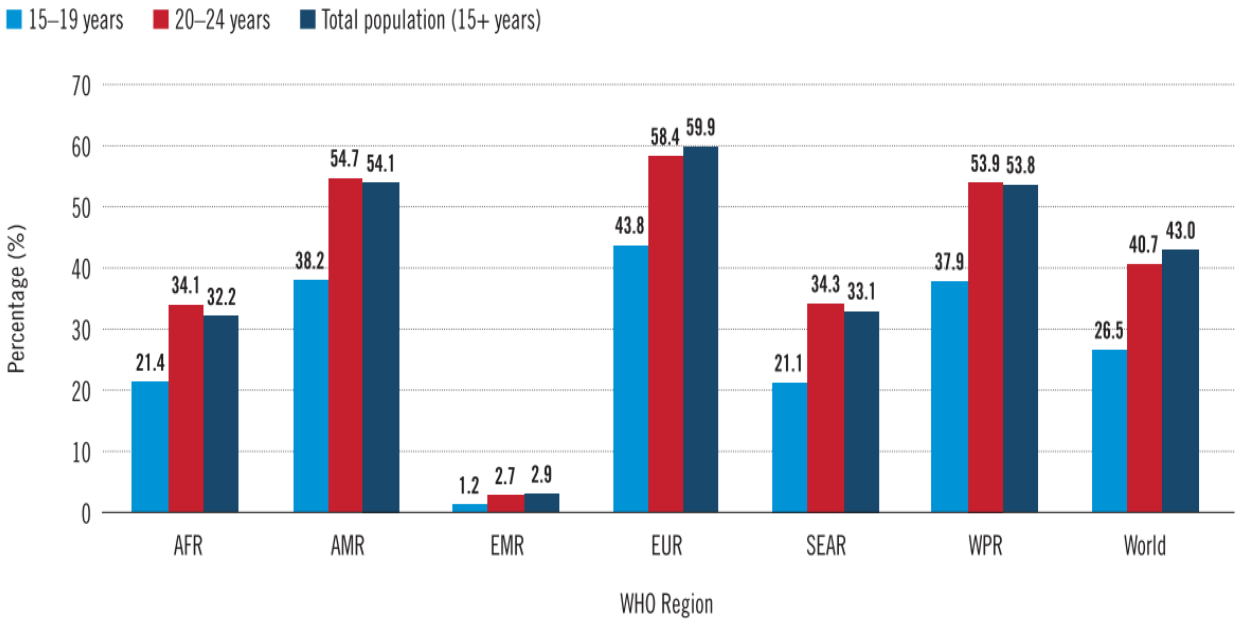


Figure 2.4. Comparison for percentage of alcohol drinking among adolescence and early adulthood (youth) according to WHO regions. ***Adopted from*** (WHO, 2018d) ***Global status report on alcohol and health. Management of Substance Abuse.*** https://www.who.int/substance_abuse/publications/global_alcohol_report/en/

Arabic and Islamic region epidemiology of illicit drugs, alcohol and tobacco addiction:

Islamic religion absolutely banned alcohol, drugs, and substances that affect a person's mental functions. In addition, there is serious dilemma in the early diagnosis of these health disorders in Muslim countries, where these addictive behaviors considered as a social stigma and individuals tend to hide them, and therefore it is difficult to identify addiction cases in the early stage (Salim and Siddiqui, 2015).

Unfortunately, according to world health organization latest statistics among all countries regarding youth substance abuse and drug addiction, most of Arab countries including Iraq, had few valid data for this health problem (WHO, 2017).

Epidemiology of illicit drugs, alcohol and tobacco addiction in Iraq:

Unfortunately, Iraq's location in the Middle East is helping to spread addiction, as many countries that have drug production or consumption surround it. For example, heroin and hashish addiction is spreading in Iran, which borders Afghanistan, the largest source of opium in the world (Aqrawi and Humphreys, 2009). Researchers from different regions of Iraq reported that the number of people receiving drug addiction treatment is increasing, especially the abuse of prescribed drugs illegally (for example: codeine, benzodiazepines, Artane and benzhexol). Opium smoking is also uncommon in Iraq. However, there are reports that it started spreading on the borders with Iran, as well as in the holy cities of Najaf and Karbala. (Aqrawi and Humphreys, 2009).

Although, there are few studies existed in Iraq, which tried to provide a hint for this health issue, such as Iraq survey of substance abuse that done through cooperation between "U.S. Substance Abuse Survey Program" and Iraqi society of addiction medicine. Moreover, another study titled "national household survey conducted in Iraq from November 2013" applied and

provided us with a glance on this subject (Bureau of International Narcotics and Law Enforcement Affairs :INL, 2015). Following, some excerpts from the report mentioned above, will be viewed to explore the extension of drug addiction and substance abuse issue in Iraq.

According to the final report of Survey of Substance Abuse in Iraq in 2015, the Overall Tobacco use of lifetime was 29.0% of participants while

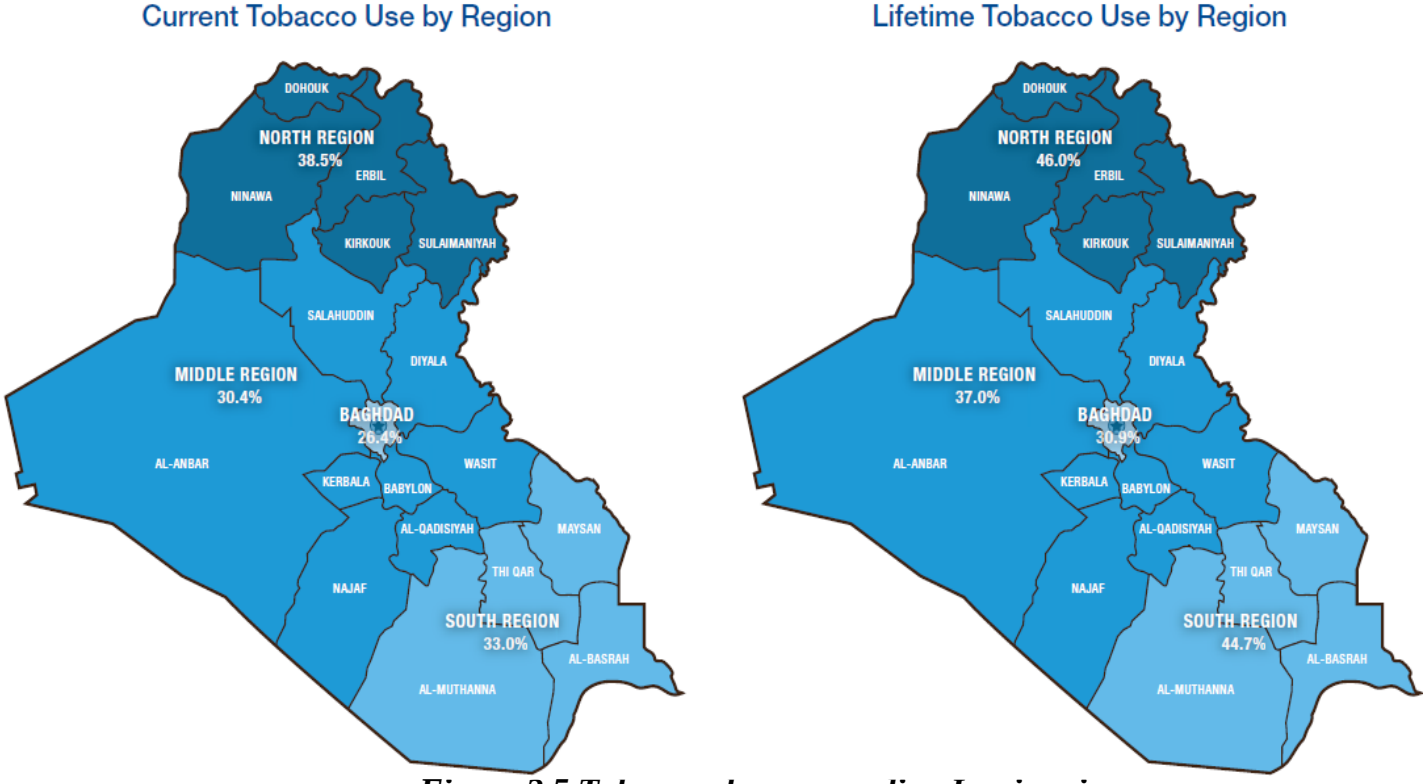


Figure 2.5 Tobacco abuse according Iraqi regions.

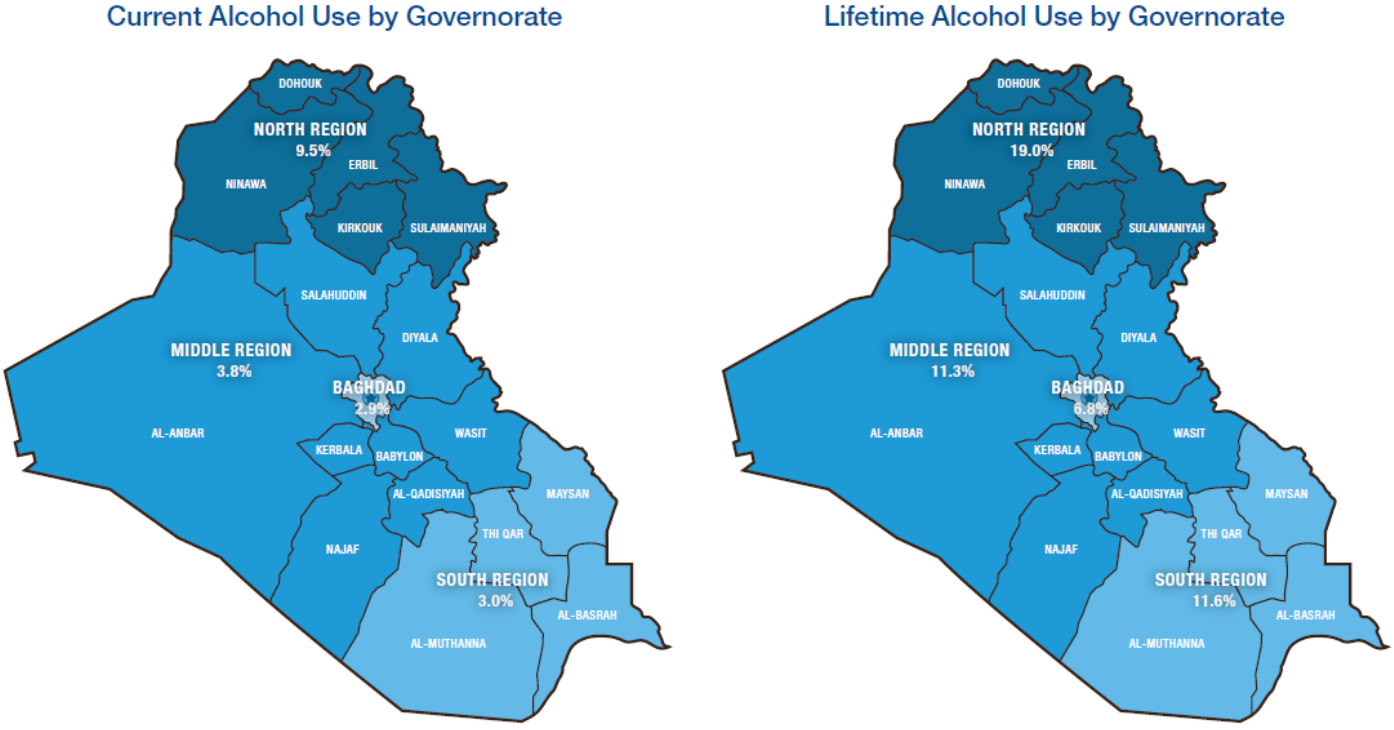


Figure 2.6 Alcohol abuse according Iraqi regions.

23.4% reported current tobacco use (Figure 2.5.). Concerning Alcohol, totally 8.6% were drinking alcohol for lifetime, and 3.4% were current drinking (Figure 2.6.).moreover, (Figure 2.7.) & (figure 2.8.) clarified the percentage of prescription (licit) drugs and illicit drugs consumptions, respectively.

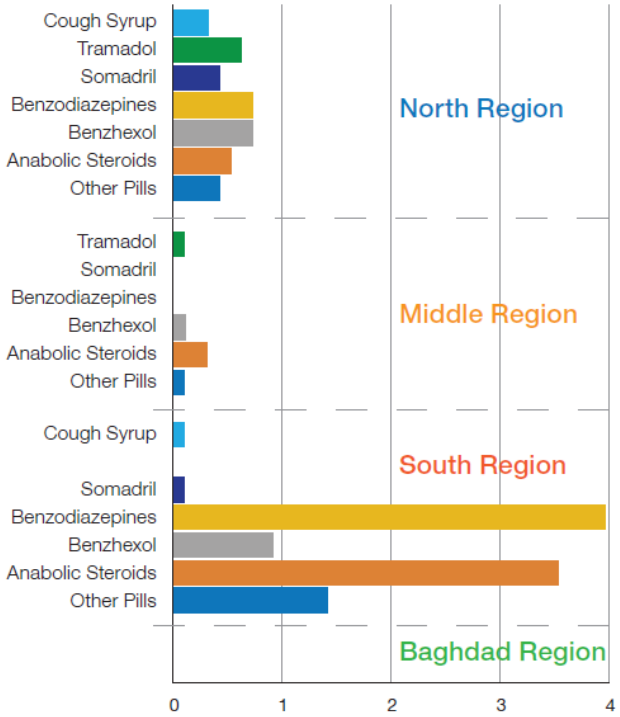


Figure 2.7. Proportions of licit drug misuse in the North, Middle, and South regions.

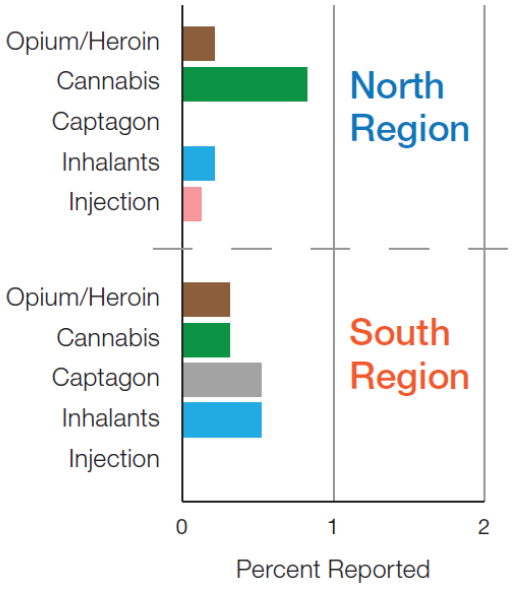


Figure 2.8. Percentages of illicit drug use in the North and South regions

Figures (2.5, 2.6, 2.7 and 2.8) *were adopted from (U.S. DS / BINLEA 2015).* ***Survey of Substance Abuse in Iraq Final Report accessed in 13th April 2020.***

2.3. Concepts of substance abuse and drug addiction:

According to United Nations statistics on addiction, there are approximately 300 million people who use drugs annually, whether adolescents, adults, or even the elderly, or up to six percent of the world's population, and this percentage is constantly increasing. Note that the abuse of "psychoactive" substances (drugs) is a chronic disease characterized by a high rate of relapse after quitting addiction. Besides, that adolescence are at higher risk for initiating substance abuse (Blest-Hopley *et al.*, 2020; Lo *et*

al., 2020).

Drug addiction, defined as “chronic, relapsing disorder characterized by compulsive drug seeking and use despite adverse consequences” (NIDA, 2020c; ASAM, 2019; Goldstein and Volkow, 2011). While, substance abuse (misuse) was defined as the use of a substance for other illegal purposes and not related to medicine. And specialists called the word "abuse" because it has a lower rate of judgment on drug users (WHO, 2014).

In general, a person dependent on psychoactive substances has the following signs prolonged use of the drug in more quantity, failure to control the ability to use or not, increase in the appearance of signs of withdrawal or intoxication on the user and increased tolerance to the “psychoactive” drug he is taking (Clark, 2014).

Before the issuance of the fifth guide from the APA in 2013, drug users were divided into two groups, the first is substance abuse and the second is dependence or addiction to it, but it now being collected under one term “Substance-related disorders”. (Thombs and Osborn, 2019; Clark, 2014).

It is also worth noting that there is controversy over the issue of the difference between addiction and dependence, as some specialists wrote that dependence may occur without the presence of addiction, for instance, people who take opium-containing analgesics for chronic pain and develop tolerance, yet they do not lose control of their behavior and do not takes excessive doses due to tolerance (Frank, 2018; Compton and Chang, 2016).

The substance is referred to as a compound that causes psychological effects, knowing that it may be designed, produced naturally, or laboratory-synthesized, and therefore its effects may extend to changing the individual’s behavior, thinking pattern and emotions (Nolen-Hoeksema, 2020).

According to the classification of the DSM.5 "Diagnostic and

Statistical Manual of Mental Disorders system, fifth edition", the problems and disorders related to the issue of drug use and addiction are not categorized on whether they are legal or illegal drugs, but created on the physical and psychological effects that they cause. Therefore, two types of these disorders have been described, the first of which is "substance use disorders" and the second is "substance-induced disorders (Nevid *et al*., 2018)" .

According to the fifth edition of the main approved guide in psychology, substance abuse is classified into ten types of substances, which are alcohol, opium, hallucinogens, stimulants, anxiolytics, hypnotics, tobacco, inhalants, cannabis and other substances. As for the definition of “substance use disorder”, it is: the usage of one of the aforementioned substances, which may cause complications and severe consequences for its abusers (Hodgins and Schluter, 2019).

The second type is "substance-induced disorders", which is characterized by a direct effect of narcotic substances on the person, causing him to have disturbances in the behavior pattern. And it, in turn, contains two types: substance poisoning (or intoxication) and withdrawal. It is also worth noting that these effects may be produced by the abuse of one or more substances, an example of which is permanent memory loss resulting from alcohol addiction, which has been called Korsakoff syndrome (Nevid *et al*., 2018).

With regard to “substance intoxication”, it is considered a very high state of drunkenness as a result of the consuming of a drug in large doses, and it is characterized by recurring episodes of poisoning, and of course its features and symptoms vary according to the type of drug being abused and the physiological interaction with the drug as well. It is important to note that high doses that exceed the body's tolerance can lead to death in substances such as opiates and alcohol, as well as cocaine. Signs of "substance

poisoning" are weakness in movements, lack of attention, aggression, and inability to make judgments (Nolen-Hoeksema, 2020).

Withdrawal is defined as a disorder caused by the addicted person's abrupt cessation of a drug, which causes him to have a set of symptoms as a result of the body becoming accustomed to these substances. It should also be noted that the recurrent use of drugs leads to a change in the physiological reaction to this substance, and thus the occurrence of what is called tolerance (sometimes called abstinence syndrome) (American Psychiatricn Association, 2013).

In the science of addiction: Psychologists define "drug tolerance" as a condition characterized by the human body becoming accustomed to a drug as a result of repeated use that requires the addicted person to take large and high doses to produce the same initial effect (Pomerantz, 2020).

Each drug has different withdrawal signs upon abrupt cessation of its use, for example hallucinations, insomnia sweating, sometimes nausea and vomiting, rapid heartbeat and other signs of withdrawal from alcohol while caffeine has a sign that includes extreme drowsiness, depression, cold-like symptoms, headache and muscle aches. This problem of withdrawal causes some addicts who want to quit to return to the drug to relieve these signs, which helps the addicts to remain in their addictive state (Comer and Comer, 2018).

One of the updates that took place in the field of addiction is that the concepts of drug abuse and drug addiction were merged into one concept, which is "substance-use disorder", where the confusion between abuse and dependence that occurred in the fourth version of the "DSM" was removed, instead, abuse was categorized into levels of severity. (Comptona *et al.*, 2013; Hasin *et al.*, 2013).

2.4. General information of major addictive substances:

The substances that people abuse and become addicted to are divided into several types (Table 2.1), depending on their effect on the central nervous system and brain in humans: they are either depressing, stimulant, hallucinogenic, cannabis or poly-substances. (Comer, 2016).

Table 2.1. Categorize of Substances Abused

Effects on CNS & Brain	Substances e.g.,
Depressant	Opioid, alcohol and anxiolytics
Stimulant	Cocaine, Amphetamine
Cannabis	Cannabis (mixture of hallucinogenic, depressant, and stimulant effects.)
Hallucinogens	Ecstasy

2.4.1. Normal functioning of brain:

From the desire to understand the biology of addiction, we must first recall the proper functioning of the brain and then how it is affected by addictive substances. Since the human brain is highly complex and through electrical and chemical processes it implements human functions and manages its various organs, as it controls its emotions and activities as well as its interaction with its surroundings, not to mention making complex decisions (SAMHSA, 2016).

Thus, billions of neurons existed in the human brain. As shown in the figure below, the neuron has three parts. The nucleus and the body control the neuron, and nerve messages are transmitted through the axon using chemical neurotransmitter that cross the synapse or “neural junction”. As for neurotransmitters, they are either of the inhibitory or stimulating type affecting neurons, and these cells work in the form of circuits or networks that participate in important functions such as learning, thinking, expressing feelings, regulating memory, or controlling muscles and many others. In sum, addiction disrupts or affects the normal work of these neuronic networks. (NIDA, 2020a).

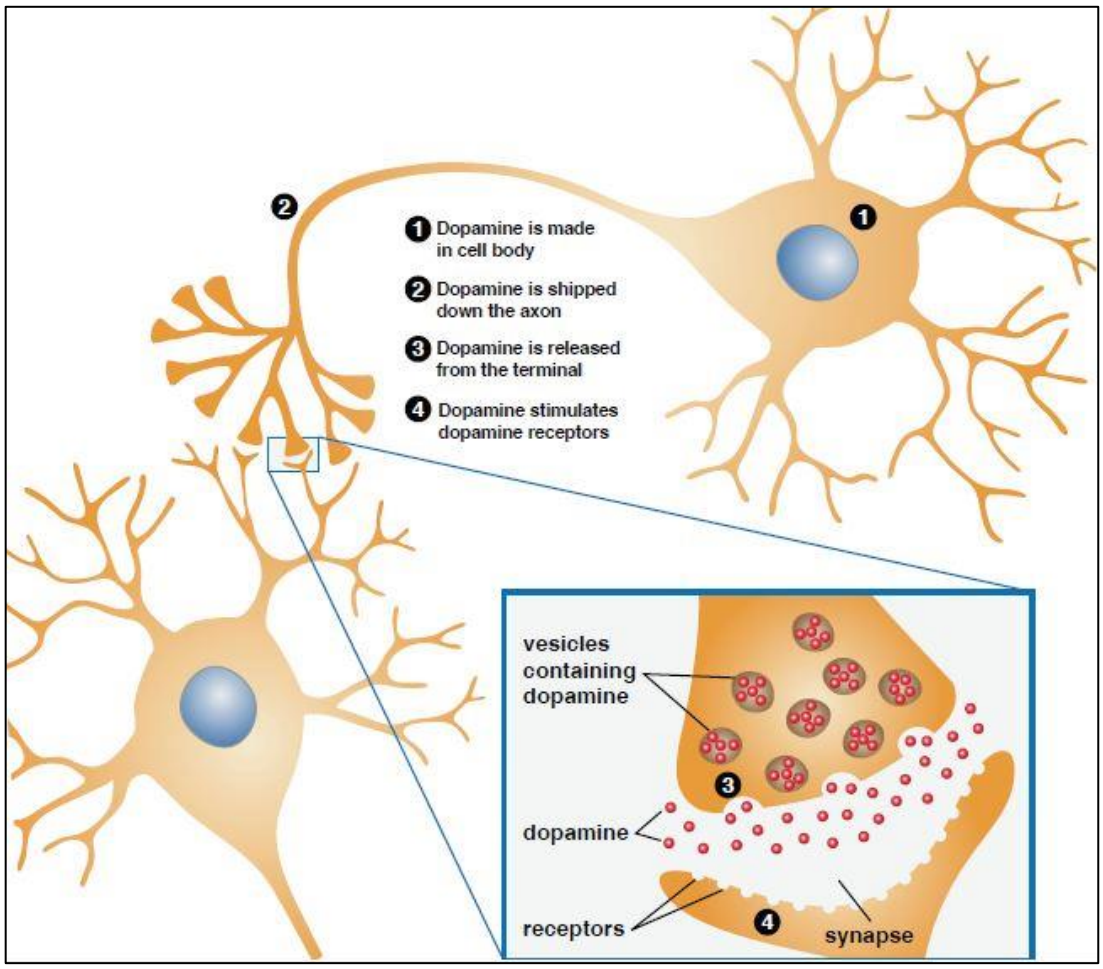


Figure 2.9 neuron comonent

2.4.2. Physiology of drug addiction on human brain:

The main effect that targets the brain by addictive substances is to flood the reward center in the human brain with dopamine as shown in Figure (2.2), thus causing euphoric effects by stimulating the reward center excessively. This is what prompts addicts to re-experience. The natural orgasm in humans that comes from eating and having sex produces ten times less dopamine than what drugs cause, and the effect of drugs is much longer. With time, the neurons located in the dopamine pathways respond to this increase and decrease dopamine production by themselves and reduce the receptors for this substance, leading to the addicted person taking higher doses to obtain the same level of euphoria (tolerance). Furthermore, to the issue of dopamine, drugs of some types affect the substance glutamate, which contributes to human learning and memory processes. So long-term

addiction and drug abuse will cause the level of this neurotransmitter to decrease and thus weaken memory. (Whitbourne, 2017).

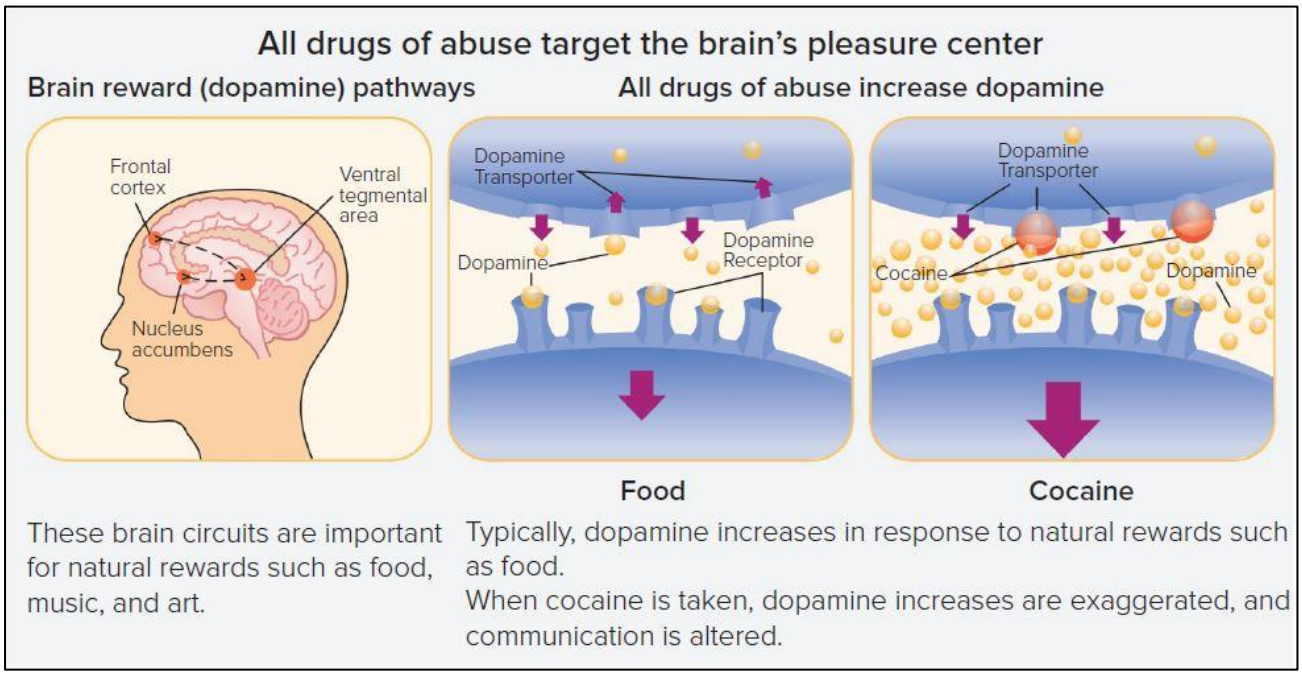
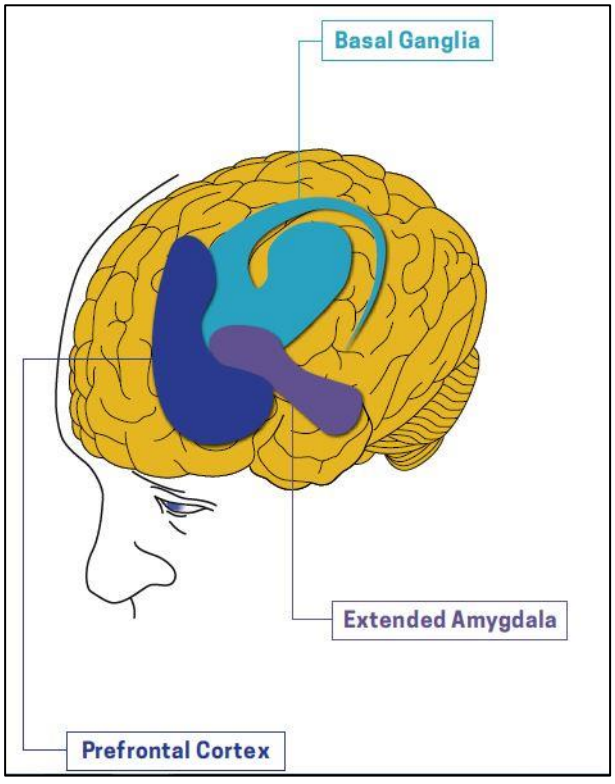


Figure 2.10. Effects of substance abuse on Dopamine Pathways

2.4.3. Affected brain parts by substance abuse:



The basal ganglia in the brain sense the health effects of enjoyment in eating, sex, and social activity. This is where the so-called reward circuit occurs, where drugs increase their stimulation and with repetition, the feeling of pleasure becomes difficult, which requires an increase in the amount of the addictive substance (Volkow *et al.*, 2016).

Figure 2.11 affected parts of human brain by addiction.

The extended amygdala handles the processes of feeling anxious, restless and tense that occur when the withdrawal process occurs and the addictive substance is not available. With the long period, the sensitivity of this circuit increases, and instead of obtaining euphoria, the addict resorts to drug abuse to alleviate these annoying symptoms (Moreira and Dalley, 2015).

Planning, thinking, decision-making, problem-solving, and patience all take place in the "prefrontal cortex". Note that this part is the latest part of the human brain to mature, and therefore this confirms that adolescents are at risk as a result. Also, drug abuse loses the balance among this part and the other two parts, which were mentioned, leading to a loss of control and a relentless pursuit of the drug (SAMHSA, 2016).

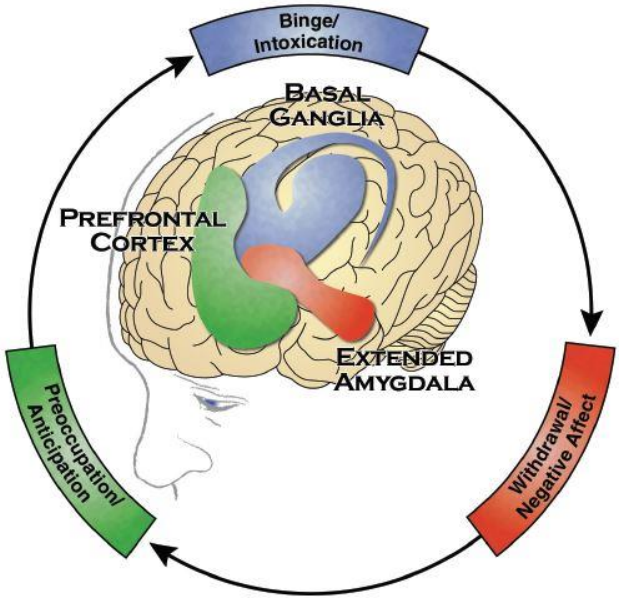


Figure 2.12 The three stages of the addiction cycle and the brain regions associated with them

The cycle of addiction includes three stages clarified in Table 2.2, besides that the three stages of abuse and addiction applies on brain as shown in Figure 2.5 (Koob *et al.*, 2014).

Table 2.2 The three stages of addiction cycle

Stage of cycle	Characteristics
Binge/Intoxication	the stage at which an individual consumes an intoxicating substance and experiences its rewarding or pleasurable effects
Withdrawal/Negative Affect	the stage at which an individual experiences a negative emotional state in the absence of the substance
Preoccupation/Anticipation	the stage at which one seeks substances again after a period of abstinence

2.4.4. Review of abusive substances:

The term illicit drugs refers to substances that are legally prohibited from being used in non-medical resources, and it falls into many categories, including opiates, cannabis, cocaine, amphetamine products, as well as other stimulants and ecstasy (Pal *et al.*, 2013).

Throughout this section major addictive substances (which included in study) will be outlined:

2.4.4.1 Depressant Substances:

1- Opioids: The opiates belong to a plant called poppy tears, which are extracted as a milky substance, dried when extracted from the plant "Papaver somniferum" in the form of latex (Jones *et al.*, 2018).

Figure 2.13 "Papaver somniferum" poppy plant

The name opioid analgesics can be given to a wide class of narcotics and medicines. It should also be noted that opioids are of three categories: the first are natural and alkaloid substances that are extracted from the poppy plant, such as codeine treatment or also morphine, the second are semi-synthetic substances (such as hydromorphone or heroin) and the third category is completely manufactured such as methadone (Azevedo *et al.*, 2021; Jamison and Mao, 2015).

Mainly and specifically, analgesics extracted from opium are used in the treatment of severe pain, and in palliative treatment (intended for people who have fatal diseases and are on the edge of death), and pain caused by

various types of cancers. Unfortunately, these drug are misused either by patients due to long term use or even by medical staff or by addicted persons (Webster and Grabois, 2015). Many studies applied on patients with chronic pain, medical practitioners, nurses or health personnel regarding abuse of opioid drugs (Oreskovich *et al.*, 2015; Von Korff, 2013; Monroe and Kenaga, 2011).

Opioids are also used in the manufacture of cough medicines and anti-diarrheal agents, but they have a negative effect on the brain even with short-term use, such as dizziness, constant drowsiness, constipation, nausea, and slowed breathing (NIDA, 2021).

2- Cannabis: The cannabis plant has many strains and types, but the main one is called “Cannabis Sativa” and it is an aromatic plant that grows throughout the year and is flowering and has been known since ancient times

Figure 2.14 Female plant of Cannabis Sativa

for medicinal and recreational addictive uses. Unfortunately, this medicinal plant with psychoactive properties is considered one of the most common drugs in the world, as it is at the top of illegal drugs and comes fourth after alcohol, tobacco and caffeine abuse and addiction, the plant also has industrial uses. (Subrahmanyam and Phanindra, 2019; Vij, 2011).

The cannabis plant has many therapeutic indications, for example, it is included in anti-inflammatory treatments and has antioxidant properties and is also used in treatments for psychiatry, not to mention the treatment of pain, but of course it is made according to chemical quantities and forms for the purpose of treatment and there are many ingredients of Cannabinoids that work similar to cannabis. It is worth noting that cannabis has depressant, stimulating and also hallucinogenic properties, and many sources classify it separately, but in general the main effect of cannabis is a depressant of the nervous system. (Louis, 2020).

Cannabis and opiates are consumed in many ways and forms. They are made in the form of capsules or powders to be inhaled or smoked, and many of them are even made in the form of solutions (Daley *et al.*, 2020; Gonçalves *et al.*, 2019; Nelson *et al.*, 2015)

1- Alcohol: also, is a depressant substance (it will be reviewed in section: 2.7. other substances).

2.4.4.2 Stimulant drugs and substances:

1- Cocaine: There are four types of the coca plant in the world and two types of them are grown for the purposes of illegal trade and its main and original home is in Latin America, especially the countries of Peru and Bolivia, knowing that the population puts its leaves with tea and that is to stimulate them and not for addictive purposes. The addictive alkaloid called cocaine was first extracted from the plant at the end of the nineteenth century. It was used for local anesthesia because it had the property of preventing bleeding by

Figure 2.15 Erythroxylon coca plant

narrowing the blood vessels. Freud also used it in treating depression. Cocaine is an alkaloid that activates the nervous system and also has local anesthetic properties, knowing that it affects the action of noradrenaline and dopamine, as well as serotonin. (NCBI, 2021; Chastain, 2013).

Studies have indicated that cocaine is used in nasal surgeries, especially rhinoplasty, where I counted annually in America more than half a million operations in the sinuses, in which a drug extracted from cocaine was used in local anesthesia for its great property in inhibiting the deep sensory nerves, as well as narrowing the vessels and reducing Bleeding, however, many studies have appeared that question its effectiveness because of it raises blood pressure and causes arrhythmia, as well as other heart problems (Danielle MacNeil *et al.*, 2020; Dwyer *et al.*, 2016).

2- Amphetamine: Substances classified within amphetamines are substances that increase the action of dopamine and norepinephrine, as well as serotonin in the brain of the drug abuser (Heal *et al.*, 2013). Its clinical uses include treating "Attention deficit hyperactivity disorder (ADHD)" and treating narcolepsy. Its advantages include improving mood and cheerfulness, increasing sexual desire, and stimulating nervousness. It is used in weight loss treatments because it works to reduce appetite. Continuous use of these substances may cause aggression and psychotic states. "Meth or Crystal Meth" are fully synthetic amphetamines (Arnaud and Thomasius, 2017; Lantz-Dretnik *et al.*, 2015; Heal *et al.*, 2013).

2.5. Physical effects of substance abuse and drug addiction:

Abuse and addiction of psychoactive substances is a factor of great concern to the health of the individual, family and society, where many social, family, psychological and physical factors will be negatively affected (Jamshidi *et al.*, 2019). The general and specific physical addictive effects of the substances included in the current study will be discussed.

Opioid physical effects includes physical signs and symptoms, according to American psychiatric association the opioid addiction replaced with term "opioid use disorders (OUDs)" (American Psychiatric Association, 2013).

The type of effect and the period of time in which it extends depends on many factors, including: how the drug was manufactured (a clean or unclean environment, sometimes even in homes), sometimes causing death through a single dose, the physical characteristics of the person using the substances (Weight, body mass index, obesity and age), duration of drug use as well as quantity, method of administration (oral, inhalation or through needles) where injection and inhalation usually accompany the occurrence of poisoning as a result of excessive doses, the process of mixing drugs with each other causes toxicity and severe signs very. (Darke *et al.*, 2019; Praveen *et al.*, 2012).

Among these substances that suppress the nervous system (depressant), as mentioned above, are opium, alcohol, cannabis and other sedatives. It affects the ability to coordinate and focus by reducing and decelerating the process of communication among the body and brain of drug abuser. In excessive doses, it causes vomiting, severe drowsiness, or loss of consciousness, and may also cause death. (Alcohol and Drug Foundation, 2021; AGDH, 2021).

1- Opioids: All three types of these substances "(natural e.g., thebaine, morphine & the codeine, semisynthetic for example oxycontin and heroin drug, and completely synthetic opioids such as tramadol, pethidine or methadone drug)" having hypnotic and pain-relieving features (Borg *et al.*, 2015).

Clinical signs of opiate addiction include slowed breathing, persistent drowsiness, dizziness, unexplained weight loss, and signs of a semi-permanent cold, and sometimes a loss of appetite. According to

"DSM.5" opioid use disorder classified into three levels of severity: severe, moderate and mild level of misuse (Durand *et al.*, 2019).

Each of substances which derived from opioid or classified as opioidlike effect has some unique signs and symptoms and physical effects. However concerning general intoxication and withdrawal signs and symptoms of opioidlike substances resources was detailed in (Table 2.3)(Pergolizzi *et al.*, 2020; Bhalla *et al.*, 2016; Koob and Volkow, 2016):

Table 2.3. Opioid withdrawal & toxication symptoms and signs:

Opioid Intoxication	Opioid Withdrawal
Signs	**Signs**
Bradycardia (slow pulse)	Tachycardia (fast pulse)
Hypotension (low blood pressure)	Hypertension (high blood pressure)
Hypothermia (low body temperature)	Hyperthermia (high body temperature)
Sedation	Insomnia
Meiosis (pinpoint pupils)	Mydriasis (enlarged pupils)
Hypokinesis (slowed movement)	Hyperreflexia (abnormally heightened reflexes)
Slurred speech	Diaphoresis (sweating)
Head nodding	Piloerection (gooseflesh)
----------	Increased respiratory rate
----------	Lacrimation (tearing), yawning
----------	Rhinorrhea (runny nose)
----------	Muscle spasms
Symptoms	**Symptoms**
Euphoria	Abdominal cramps, nausea, vomiting, diarrhea
Analgesia (pain-killing effects)	Bone and muscle pain
Calmness	Anxiety

According to the Fifth Edition of the Guide to the American Psychological Association, opioid use disorder in brief is characterized by the following symptoms: an indescribable desire to take these substances, despite making efforts, the user loses control over the amount of consumption of such substances, spending a long time in addictive practices

and lack of awakening, use these opioids even with serious symptoms and physical problems, the phenomenon of tolerance and withdrawal occurs when the drug is stopped, and shortcomings in social relations and educational attainment will be addressed later (Kaye *et al.*, 2017; Ayanga *et al.*, 2016).

2- Cannabis (e.g., marijuana and hashish): Consuming cannabis in an amount that is more than tolerated will lead to the occurrence of symptoms of intoxication in physical, psychological, as well as behavioral scopes. Physical symptoms include poor body coordination, loss of appetite, heart rhythm disturbances, and conjunctival congestion (Kesner and Lovinger, 2021). Likewise, dry mouth, reddening of the eyes of drug misuser, sudden elevation in blood pressure, , pain in the chest, seizures or unexpected headache (van Ours and Williams, 2014).

The signs of cannabis withdrawal usually begin to appear approximately 7 days after abstaining from excessive cannabis consumption (of course the period prior to withdrawal is not less than a few months), and these signs include weight loss, lack of appetite for food and heavy sweating and may be Accompanied by fever, chills, and body tremors (Hooley *et al.*, 2017). Also, Cannabis has psychological and behavioral withdrawal symptoms, for example, stopping its use after relying on it for a period causes: signs such as aggression towards others, unjustified anger, clear anxiety, disturbing dreams, and difficulty sleeping as a result of insomnia, depression and mood swings. (Crane *et al.*, 2013)

As with other narcotic drugs, cannabis in all its forms also has common signs and symptoms and signs and symptoms specific to each type of cannabis with regard to abuse, withdrawal or intoxication (Hooley *et al.*, 2017). Additionally, cannabis abuse increases the risk of cardiovascular, lung, gum, and, as well as obesity, and a number of other serious health conditions (Hernandez *et al.*, 2020).

3- Amphetamines: According to what was mentioned in the special guide "DSM/5", amphetamines such as crystal, for example, have signs of behavioral, physical and psychological for withdrawal ant toxicity. Physically, including dilated pupils, unexplained acceleration or slowing of the heartbeat, a decrease or rise in blood pressure, weight loss accompanied by decreased appetite, vomiting, severe nausea, exhaustion, a feeling of muscle weakness and pain in the chest, as well as insomnia or vice versa, excessive sleep. It is noteworthy that these signs appear during a short period of abuse of stimulants such as methamphetamine (Lappin and Sara, 2019; Richards *et al.*, 2015; Zorick *et al.*, 2010).

4- cocaine: Since cocaine and its derivatives are considered stimulants of the nervous system, it has signs and symptoms of toxicity similar to amphetamines. For example, a person who has cocaine poisoning suffers from a slowing of the pulse and breathing with increased sweating and notices that his pupils dilate, and the signs and symptoms also include episodes of irritation, And an excessive increase in sexual activity and physical movements (Lappin and Sara, 2019).

However, general some literatures defining physical effects of aforementioned substances in light of long term and short-term physical effects. For short term effects it may be referred as early signs and symptoms of drug abuse and addiction. While long-term impacts on body organs can be very serious for instance it may lead to cancer (Mathre, 2016; Battistella *et al.*, 2014).

The kidneys can be damaged due to drug abuse or addiction, especially in the long term (years of addiction), as drugs cause dehydration in the kidneys, which exposes them to the risk of failure. The prevalence of kidney failure among addicts of all kinds of psychoactive substances (NIDA, 2020b).

One of the most serious problems facing the addict is his exposure to serious cardiovascular problems, ranging from irregular heartbeat to myocardial infarction, not to mention the risk of serious infections and diseases as a result of drug injection with contaminated needles into the bloodstream (Kim and Park, 2019).

The lungs are the body's gateway to breathing, and inhaling drugs causes damage to the lungs and leads to slow breathing and serious harm to the internal tissues of the lungs (MacGowan *et al.*, 2019).

Accidents caused by drug use are important concern at the international level (Bogstrand *et al.*, 2012; Divsalar et al., 2021). Where the incidence of car collisions under the effect of narcotic substances is increasing, as it has been observed globally that the number of fatal and even non-fatal traffic accidents has increased as a result of driving on the influence of these dangerous substances. So that, many studies conducted about this vital issue (Bibi *et al.*, 2020; Landsman-Blumberg *et al.*, 2017; Papa *et al.*, 2017).

Since the physical effects of addiction were deliberated, it is worth mentioning the effect of drugs and narcotic drugs on the pregnant woman and her fetus in brief. Where previous studies indicated that the substances taken by the pregnant woman are transmitted through the placenta to the fetus, and these substances are mainly dangerous, medicines derived from opium and cannabis or sedatives and psychotropic drugs, for example, taking opium causes birth defects to the fetus, premature birth, glaucoma, and also congenital heart defects. The fetus, while cocaine and amphetamine work to raise the blood pressure of the pregnant woman, fetal death, sleep disturbances, rabbit lip, congenital defects of the fetus’s heart and brain, and other problems for the mother and her fetus (ANA, 2019; Forray, 2016).

2.6. Psychological and mental effects of substance abuse and drug addiction:

Globally, substance addiction and abuse results in serious psychological and mental health problems (Burkholder, 2021). The psychological and behavioral signs and symptoms of different addictive drugs and associated psychiatric problems will be briefed.

Withdrawal from opioids causes serious psychological and behavioral signs and symptoms, such as anxiety and episodes of delirium that occur within 14 days of stopping use, as well as irritability, a sense of panic, and the possibility of depression and sadness. Signs and symptoms of opioid intoxication also include signs of depression, peripheral cognitive impairment and sometimes loss of consciousness (Praveen *et al.*, 2012; Bhalla *et al.*, 2016; Dinh and Oliver, 2021).

As for the psychological symptoms of cannabis withdrawal consumption, they include inability to pass judgment, social withdrawal, marked anxiety and euphoria, as well as hallucinations and visual or auditory delusions, knowing that there is no delirium with them. Cannabis is one of the drugs that cause hallucinations, so some reviewers in psychology have classified it as either depressing, stimulant, or hallucinogenic, affecting humans (Lowe *et al.*, 2019; Ortiz-Medina *et al.*, 2018). Additionally, cannabis consumption is related to, schizophrenia, cognitive deficits, such as motivation, as well as depression disorder in adolescents (Hernandez *et al.*, 2020).

With regard to the psychological and behavioral signs and symptoms that may appear on a person who abuses amphetamines of all kinds, he may have: strong euphoria, emotional outburst, sensitivity to being around people with violent behavior patterns such as anger, intense anxiety, apparent confusion, and bouts of coma in severe cases. And these symptoms may be

accompanied by psychotic mental disorders (APA, 2013; Lantz-Dretnik *et al.*, 2015; Arnaud and Thomasius, 2017).

Subsequently cocaine is a stimulant of the nervous system, depending on its effect on dopamine, the signs of psychological and behavioral toxicity may be compulsive actions, inability to sleep for a long time, psychological anxiety, behavioral impulsivity, and unjustified aggression (Lappin and Sara, 2019).

The signs and symptoms of withdrawal in cocaine are classified into three ranks. The first category is the early withdrawal signs, where the desire to eat decreases, the general mood is normal, and there is a slight anxiety in the user. As for the signs that belong to the two categories of late and medium-term withdrawal, he has a lack of pleasure in food and other things, increased anxiety becomes evident in the addict, and a strong and urgent desire to obtain the drug appears in the addict. Besides, suicidal ideas and depression also appears on addicted person (Clark, 2014; Perron *et al.*, 2011).

Addiction is usually associated with psychological and mental problems in adolescence (Chassin *et al.*, 2016). For instance, individuals who suffer from problems such as anxiety, mood swings and depressive disorders are more likely to be addicted than healthy people, and also those who experience an addiction disorder are exposed to psychological problems, and therefore there is a close connection between the two things (Brande, 2021; Ozer *et al.*, 2015). The following psychological and mental problems are most likely to be addicted in the long term:

Depression: of course, drug dependance and depression are closely related to each other, not to mention other psychological and mood problems. Some of them explain this by the fact that drug abuse was the result of depression in the addict, and others attributed the reason to the fact that the

use of opiates, cannabis, stimulants and other drugs causes a specific change in the brain which leads to the appearance of depression or to an increase in its severity. Some addicts think that taking the drug will cure the addiction, but it relieves the signs of depression, and when the effect ends, the withdrawal symptoms will be severe, including depression that may lead to suicide (Resch and Parzer, 2021; Assari *et al.*, 2018).

A common feature of adolescence is risk-taking behavior. Among youth, illegal drug abuse is also highly prevalent and accompanied with a variety of mental diseases, for instance depression and also "Borderline Personality Disorder (BPD)" (Ghinea *et al.*, 2020).

Adolescent addicts suffer from personality disorders more commonly than adults, as approximately 15% of the adult population in Western countries have some type of these disorders, while adolescents who use drugs, the prevalence rate reaches above 17%, due to the pathological characteristics In personality traits, they appear early and are closely related to behaviors pursued by adolescents that are at great risk to physical and mental health in adolescence and later maturity (Korsgaard *et al.*, 2016). Personality disorders are one of the things that specialists focus on to diagnose at an early age (Kongerslev *et al.*, 2015).

The disorder of anxiety is one of the conditions connected with addicts, especially adolescents, in the long term. Note that the cause of this disorder is not clear and its severity varies from one addict to another, as the abuse of opium or medical drugs derived from opium and cannabis is such a problem, and moreover, stimulants such as cocaine cause anxiety as a side effect of abuse even short-term, while the severity of this disorder varies rendering to the substance and withdrawal symptoms (Resch and Parzer, 2021; Wu *et al.*, 2010). Female adolescence found to develop anxiety problems in relation to substance abuse more than male adolescence (Saban and Flisher, 2010).

In the long-term of addiction, it has been observed that cannabinoids and cocaine derivatives lead to paranoia in the abuser, and this explains the unreasonable and deliberated actions of addicted adolescents in addition to their puberty difficulties, and it must be known that this disorder will worsen as the period of abuse increases (Marmorstein and White, 2018).

Referring to the issue of mental disorders and their association with the use of psychoactive substances, a study conducted in America indicated that approximately twenty to forty percent of adolescents who use drugs have psychological and mental problems, while research conducted in South Africa found that nearly half of adolescents who used drugs Long-term cannabis exhibited psychotic symptoms (Taukoor *et al.*, 2017).

Another study confirmed that persons in adolescence age or early adulthood who experience addiction to cannabis for very long period had mor than 50% of chance to explore psychotic (Paruk *et al.*, 2018; Carney *et al.*, 2017; Barkus and Murray, 2010).

Over the years, scientists have found a direct and correlative relationship between the use of some types of drugs and addictive substances with schizophrenia. Especially when using from an early age such as adolescence. One of the researchers wrote that during his study he found that the start of cannabis experience in adolescence, especially from the age of eighteen, was surprisingly associated with the occurrence of schizophrenia, while another researcher found indication that the age of fifteen was pivotal, since those who were addicted starting this age were by the age twenty-five had schizoaffective disorders. More recent studies have estimated that drug abuse increases the risk of evolving such health problems by 5 times, as drugs interfere with and negatively affect adolescent brain development (Khokhar *et al.*, 2018; Jones *et al.*, 2017).

2.7. Social and economic effects of drug addiction and abuse (person, family and community, besides education and economics):

It is important to point out the issue of the severe impact of drug addiction on the individual himself and his family, and thus on the entire society. Where addiction leads to major problems and family disintegration, as well as leaving school seats in adolescence, undermining education, social isolation and many intractable problems (Ahammed *et al.*, 2019; Mohiuddin, 2019).

Since drugs have an epidemiological impact on society, social epidemiology has been developed, which is concerned with studying the social, family and individual effects on health. Also in sociology, researchers were interested in studying the health effects on the social and family structure and public relations as a result of the emergence of these disjointed problems for the structure of societies (Cumming, 2020).

2.7.1. Individual effects:

The use of drugs and addictive substances in general has many physical, psychological, social and economic consequences for the addict himself, especially adolescents. It is also linked to the spread of many infectious diseases such as AIDS as a result of contaminated injections. As for socially, it is linked to problems with family and poor relationship with relatives and friends and also complete isolation and leaving the path of learning (Patoari, 2021; Hanan *et al.*, 2012).

2.7.2. Influence of substance uses and addiction on the family:

Many old and recent reports and social and health studies around the world have documented the effects of drug addiction on the family structure, including children of all ages. Certainly, such disorders, since they affect the individual as the smallest component of the family, so these problems will

be reflected on the entire family. According to (Daley, 2013), these effects will be as following:

1- The emotional burden on the family and its members: For example, the family of an addict may experience feelings of frustration, anxiety about the future, fear of the addict's actions, as well as anger towards the person using drugs, not to mention feelings of embarrassment and shame.
2- The economic pressures and financial burdens on the family are great. The addict may resort to stealing from the family to cover the costs of drugs or begging and asking for debt from others to finance the process of his addiction, and if he is an adult, he may lose his job and source of revenue.
3- The collapse of relationships within the family and a state of dissatisfaction from the addict, as well as, a high percentage of problems and tensions within families in which there is an addicted individual noticed, which may cause disturbances to the family relations with its surroundings community.
4- Instability in the family system, which is the result of abuse and violence and may eventually lead to divorce between parents and in Western societies the separation of children and their deportation through institutions that adopt services for children and adolescents.
5- The social problems of the family as a result of health factors such as the birth of children with birth defects as a result of parental addiction and the possibility of the birth of children with mental disabilities, as well as the exposure of children and adolescents to physical and sexual abuse and thus delinquency. And do not forget that the heavy burden of health problems and the psychological and family attention it requires, which the family may not be able to bear.
6- The exposure of the addict, whether he is an adult or especially a teenager, to imprisonment as a result of actions under the influence of drugs may

have serious consequences on the feelings of parents (depression, guilt or anger), which complicates the family relationship.

2.7.3. influence of drag addiction and abuse on the society:

As a consequence of drug abuse by its members, the society that contains addicts will be directly affected, for example social conflict, deaths and serious accidents will spread, as well as the spread of infectious diseases, not to mention the high rate of suicide among young people. Social problems related to addiction include many aspects, for example homelessness is one of them. The rate of addiction-related crime, especially among young people and adolescents, will increase significantly. There is no doubt that unemployment is one of the products of this dangerous disease that is taking place in societies (Pirdehghan *et al.*, 2019; Peltzer and Pengpid, 2017; Sharma *et al.*, 2016; Marcus and Jamison, 2013)

During the last decades, especially since the beginning of this century, the countries of the world have witnessed a remarkable growth in the drug trade, especially in current years in light of the global social and economic crises and the destruction of morals and values among the rising generations as a result of globalization, where a great impact on societies has occurred (Rivera *et al.*, 2017; Anastasov and Kochoska, 2020).

The close link between the commission of crimes and the abuse and addiction of psychoactive substances has made this issue a focus of attention for political authorities all over the world, as well as researchers and scientists, who produced a lot of scientific literature on this matter (Soleimani *et al.,* 2019).

Also, as a result of the increase in crimes committed by adolescents and youth under the influence of addiction and in the presence of statistics in Western countries talking about this phenomenon, this topic has become popular in the scientific debate. Where adolescents and young people who

involved in the drug world, commit criminal acts, and they do not understand the risks and subsequent consequences. And these illogical decisions are based on the feeling and desire to rebel and animate new experiences in addition to curiosity (Vitale *et al.*, 2021; Yin, 2019).

According to a United Nations report in 2020, addicted teens in America who used heroin were nearly 50 percent more likely to engage in crimes such as theft and armed robbery compared to other juvenile teens incarcerated in criminal cases (UNODC, 2020).

One of the social aspects of addiction is stigma. Where there is the term general stigma, which is defined as the perception of members of a community group towards a particular individual or issue. It is worth noting that sometimes the fear of addicts, especially young people, of societal stigma leads them to avoid seeking help or treatment for their problem, and the possibility of physical and psychological health complications for them increases as a result of this fear. The presence of negative attitudes towards helping such cases contributes to the fact that the services provided, whether curative or societal, are below the required level (Matthews *et al.*, 2017; Sattler *et al.*, 2017).

Previous studies that talked about the subject of stigma in addiction showed that when knowledge and information about the subject of addiction increases, especially its inclusion in education curricula and personal experiences such as the presence of an addicted person within the familiarity, all contribute to reducing the issue of stigma. Thus, knowledge about the subject increases positive attitudes and helps attract addicts towards the treatment and recovery process (Sattler *et al.*, 2017; Barry *et al.*, 2014).

Conferring to the report published by “Centers for Disease Control and Prevention (CDC)”, addiction to opiates and drugs derived from them costs the US treasury nearly $80 billion each year. This number includes

addiction treatment, health and medical care costs for addicts, and unemployment Caused by addiction as well as related criminal cases (Florence *et al.*, 2016).

Correspondingly, in the United States of America (USA), the results of a nationwide survey were published in 2019 with regard to health and drugs, where the results showed that nearly seven million people under twenty years of age used drugs even once, and the total expenditure for helping addicts in 2010 approached 25 Billion dollars (Close *et al.*, 2021). Likewise, nearby 300 billion was the cost of medical care regarding chronic pain by opiate drugs (Kirson *et al.*, 2017).

According to united nation about 300 million youth around the world are drug addicts. Likewise, substance abuse lowers educational achievement, for example smoking one cigarette of cannabis will weaken cognitive performance for about one week. Also, this problem is associated with school absence and dismissal, thus effecting education among affected youth. Several studies done specially in USA regarding high school students' educational achievement with drug abuse, one of these studies found that nearby half of students at high school level trying to abuse drugs even for one stand. However, there is lack of research on this matter in Iraq or Arab worlds (James *et al.*, 2011; Ani, 2014; Tuwei, 2014).

Many studies on infectious diseases caused by wrong behavior and addictive practices have proven that they have a significant impact on society's exposure to infectious and deadly diseases such as AIDS, viral hepatitis, sexual diseases and many infectious diseases, for example, Corona disease. (Ahmed and Stanciu, 2017; Schranz and Barocas, 2020; Serota *et al.*, 2020; Seval *et al.*, 2021). Similarly, with the increase in addiction, suicides among addicts, especially young people, will rise (CCSA, 2014).

2.8. Tobacco and Alcohol (addiction and abuse): including physical, psychological and social effects:

2.8.1. Alcohol use disorder (AUD):

According to the DSM5 definition, alcohol addiction, or what is known as alcohol use disorder, is a heavy, debilitating, uncontrollable use of alcohol with signs of withdrawal and tolerance. And there are three conditions to search for a diagnosis of the problem, and they are first, the presence of signs of tolerance, and secondly, when you stop drinking, signs of withdrawal appear, and finally, heavy and long-term consumption of alcohol without controlling desire (Khan *et al.*, 2015; Shawe *et al.*, 2020).

Brief history:

Rendering to alcohol abuse and addiction, the historical evidence confirms that the first discovery of the process of fermenting grain dates back more than twenty thousand years, where researchers and historians believe that the process of discovering alcohol was a coincidence process and an example of initial alcoholic beverages was beer from Cereals and grape juice. And the archeology discovered in Siberia recorded that fermented and spoiled mare's milk was used as an alcoholic drink, and the creation of such drinks is still going on in some portions of Russia (Haldipur, 2018; Guidot and Mehta, 2014).

According to the discoveries, the manufacture and production of alcoholic beverages began on a large scale around 8000 BC in China, and jars dating back to about 6000 BC were found in present-day Iran as evidence of the existence of this drink affecting the human mind and psyche. Also, in Mesopotamia, the Sumerians produced dozens of types of alcohol and used them on occasions, and this was mentioned in the Gilgamesh manuscript, and that was about two thousand years before Christ. And let us not forget the Egyptians, the Greeks, and the Romans, and the evidence that they found

of their consumption of this intoxicating drink (Agnoli and Outreville, 2020; Al Ansari *et al.*, 2019; Khaderi, 2019; Li *et al.*, 2018; Nikaj and Vyshka, 2013).

After the advent of the Islamic religion and its spread around the world, drinking alcohol was forbidden because of the properties that it has that negatively affect the thinking and behavior of the person who uses it, and Muslims adhered to the prohibition of drinking it despite the violation of these rulings by the rulers and the affluent classes, where Islam punishes with flogging those who drink alcohol (Hamdan-Mansour, 2019; Aziz *et al.*, 2015; Lankarani and Afshari, 2014; Matthee, 2014).

The production and drinking of alcohol continued in the modern centuries despite all that was mentioned about it and despite the discovery of its severe physical harm even in books, discoveries and historical manuscripts. Today, alcohol is considered the drug number one in the world in terms of abuse and addiction (Brown *et al.*, 2019; Cockx *et al.*, 2019; Ciubară *et al.*, 2015b).

Brief epidemiological impact:

One of the problems of concern, with regard to public health at the international and global levels, is the problem of alcohol abuse and addiction, especially in adolescence and young adults. Where many studies have identified adolescence as a key period from which alcohol addiction began, which calls for in-depth consideration and study into how this disorder develops (Waller *et al.*, 2020; Unlu and Sahin, 2016; Berten *et al.*, 2012).

With regard to the deaths of the younger generation globally, accidents are the main cause and half of the accidents, according to primary statistics, are related to driving vehicles under the impact of alcoholic drinks (Hanewinkel *et al.*, 2012).

Statistics of the International Organization on World Health have estimated that more than two billion people around the world either abuse alcohol or have a disorder as a consequence of using this drug. And the European Union countries occupied the highest proportion in the world by about three quarters of the population. The WHO pointed to the hazards of alcohol misuse since adolescence and its consequences later in adulthood, stressing that a study conducted by the organization in the year 2014 that alcohol addiction in adulthood began from adolescence and the age ranged between thirteen and fifteen years. to start taking (Garcia *et al.*, 2020; Giustino *et al.*, 2018; WHO, 2018a).

In connection with the same problem, statistics related to the Center for Addiction and Drug Abuse in America indicated that three quarters of high school students used alcohol or narcotic substances that lead to addiction, and about 70% of them drank alcohol regularly, and that 45% of them smoked cigarettes with it, as well as statistics in countries neighboring Iraq The example of Iran reports that about 30 to 40 percent of high school students may have used alcohol or other drugs (Pirdehghan *et al.*, 2017).

Other studies conducted at the level of six countries located in the European continent showed that alcohol use among adolescents under 18 years of age ranged between 20-55%, while a study showed that the eighth, ninth and tenth grades were pivotal in terms of the possibility of adolescent involvement in alcoholic abuse (Hui G. Cheng and Anthony, 2017; Hanewinkel *et al.*, 2012).

The problem of drug abuse, including alcohol, has grown in Iraq, exclusively after 2003, when Iraq's borders became open to illegal drugs and the ease of smuggling, especially from the world's number one drug source, Afghanistan, and the main corridor adjacent to Iraq, which is Iran. Which constituted a burden on the health system and health workers in Iraq as a result of the increase in addiction rates (Mehdi and Hasnawi, 2014).

Alcohol health impact:

The physiology and neurobiology of alcohol dependence is very similar to other depressant drugs like opioid (Tabakoff and Hoffman, 2013)

Alcohol, like other drugs, interferes with the work of the nervous system and as well as the brain (depressant drug), which affects thinking and behavior, leading to disturbances in thinking, mood, behavior and decision-making (Lees *et al.*, 2020; Spear, 2018; Abrahao *et al.*, 2017).

Addiction and alcohol abuse harm the cardiovascular system, causing irregular heartbeats or high pressure pain for the addicted person and may contribute to stroke, as well as closely related to cardiomyopathy and heart muscle prolapse (Rehm and Roerecke, 2017; Gardner and Mouton, 2015).

Concerning the effects toward liver and pancreas: alcohol addiction contributes to liver inflammation and causes cirrhosis of the liver, as well as the occurrence of alcoholic hepatitis and also fatty liver disease. As a result of alcohol toxicity, it forces pancreas to secrete toxins and later inflammation as a result of the same toxins that it secretes and It is a very serious condition that prevents appropriate absorption of food (Yadav and Whitcomb, 2010; Rocco *et al.*, 2014; Alempijevic *et al.*, 2017; Storck *et al.*, 2019).

Previously published literature unanimously agreed that there is a close relationship between long-term alcohol abuse and the incidence of types of cancerous diseases. Since regular drinking of this substance was directly related to cancer, deaths due to cancer and alcohol consumption accounted for about 4% of all cancer-related deaths in America (Scoccianti *et al.*, 2013; Bagnardi *et al.*, 2015; Connor, 2017; Klein *et al.*, 2020).

On a related topic, many scientists and researchers in the field of malignant cancerous diseases have proven that alcoholics have developed cancerous diseases in the head or neck areas and places such as the pharynx and also the vocal larynx, especially from the daily intake of more than 50

grams of alcohol. Tobacco use and drinking increases the risk of cancer by up to 3 times (Hermans *et al.*, 2021; Kawakita and Matsuo, 2017; Potash *et al.*, 2010).

Alcohol abuse is one of the risk factors associated with esophageal cancer, as it affects the so-called squamous cells of the esophagus. Another risk factor is that some people have a genetic deficiency in the enzyme responsible for alcohol metabolism, which contributes to the development of this disease (Peng *et al.*, 2016; Yokoyama *et al.*, 2017; Choi *et al.*, 2018).

Recent research has shown that the chronic abuse of alcohol by women is the risk factor for evolving breast cancer, especially in young women (Meyer *et al.*, 2019; Kim *et al.*, 2017). In addition, the frequent use of these addictive drinks was related to the emergence of cancer of the rectum and colon, where the greater the addiction or abuse, the greater the possibility of the emergence of such a disease (Fagunwa *et al.*, 2017; Rossi *et al.*, 2018).

Another aspect of the negative effects of alcohol is the weakening of the immune system of the abuser, as studies have found a direct relationship between pulmonary tuberculosis and pneumonia and the frequent abuse of alcohol. Where the period in which the immune system weakens, up to a full day after drinking an amount of alcohol (Pasala *et al.*, 2015; Soh *et al.*, 2017).

The prolonged psychological harms of alcohol are no less important than the physical damage, as depression disorder and also anxiety disorders which are common in alcoholics, and the alcohol disturbs learning, memory and cognition and interferes with the growth and growth of the human brain (Vinader-Caerol *et al.*, 2015; Butler *et al.*, 2016; Sayette *et al.*, 2017).

It is certain that mental disorders may lead to alcohol abuse, and alcohol addiction itself leads to mental disorders. Because alcohol is a drug that depresses the nervous system, it plays a negative role in the feelings as well as emotions of the abuser (Raposo *et al.*, 2017; Balogun *et al.*, 2014).

Signs of intoxication due to alcohol that appear soon after consumption are: lack of coordination (steady gait), slurred speech, very common signs, especially with heavy use, unsteady standing, coma or loss of consciousness, and poor attention And the memory is not fixed (American Psychiatric Association, 2013b).

When it comes to the signs of withdrawal, the sudden cessation or non-use of alcohol after the addictive drinking will lead within hours or days to the following: marked trembling of the hands (tremor), night insomnia, difficulty sleeping, and also the occurrence of sudden visual or auditory hallucinations and the occurrence of nausea accompanied by vomiting is a common sign, also there are significant increase in involuntary activities of the body, for example, the pulse reaches about 100 beats per minute, heavy sweating, and in severe cases, convulsions and seizures occur (Jesse *et al.*, 2017; American Psychiatric Association, 2013b; Kattimani and Bharadwaj, 2013).

Many studies have linked violence especially among young people, with alcohol abuse, indicating that there is a correlation between alcohol use and aggressive behavior in society. There are also many studies on the biological roots caused by alcohol and lead to violence and illogicalness in decision-making under the influence alcoholic beverage (Maldonado-Molina *et al.*, 2011; Pérez-Fuentes *et al.*, 2019; Shi *et al.*, 2020; van Amsterdam *et al.*, 2020).

2.8.2. Tobacco consumption and nicotine dependence "(tobacco use disorder – TUD)":

Historically, tobacco was known for more than ten thousand years in the Americas and spread to the world with the arrival of Portugal and the Spaniards there nearly five centuries ago. The oldest historical record of the discovery of the fossilized remains of the tobacco plant was recorded in an

area in northern Peru and dates back to about two and a half million years ago. In fact, the native Indians of the American continent used and planted this plant about six thousand years ago (Hanafin and Clancy, 2015; Dani and Balfour, 2011).

Settlers and sailors traveling between newly discovered America and Europe in fifteenth and sixteenth centuries transferred the habit of tobacco smoking that they had taken from the Native Americans to the European continent (Oyuela-Caycedo and Kawa, 2020).

In the past, some Europeans alleged that tobacco was a remedy for ills. The late sixth century, a Spanish doctor claimed that the benefits of tobacco are to reduce the feeling of hunger and relieve pain, and also as a treatment for malignant cancer. Nevertheless, opinions appeared at that time opposing this thinking, as Britain's King “James the first”, which described tobacco smoking as foul-smelling and damaging to the eye, in addition to hurtful to the lungs and brain. (Ramé, 2021; Sanchez-ramos, 2020).

Soon, from Europe, the habit of smoking reached Asia and the Middle East, where the Arabs smoked hookah with coffee, and this habit extended to China, Iran, India, and later the African continent. As for the tobacco industry, it was not started in a large industrial manner, except in the late nineteenth century, starting with America, and it was not classified as an addictive substance until the beginning of the twentieth century. (Hanafin and Clancy, 2015; Russo *et al.*, 2011)

Brief epidemiology:

Globally, smoking (of all kinds) is one of the main causes of early death, as it poses a danger to children, adolescents and even young adults. And its short-term risk factors include addiction to nicotine and diseases of the respiratory system. As for long-term use, its severe consequences harm the heart and affect the user with diseases of the cardiovascular system, as

well as cancer and psychological disorders, and not forgetting stroke (Ghali *et al.*, 2020; Veeranki *et al.*, 2015).

Conferring to the latest credible global statistics, tobacco smoking of all kinds and forms causes the death of nearly eight million people around the globe. Death as a direct consequence of smoking constitutes more than 85% of tobacco deaths, while the remaining 15% decease as a result of passive smoking. What is surprising is that the vast-majority of smokers are from the so-called third or developing world, where the daily income ranges from medium to low (Khanal and Khatri, 2021; Ma *et al.*, 2021; WHO, 2020b).

A survey study conducted in America at the beginning of the current decade showed that students of secondary and high school (from the sixth to the twelfth grade) noticed a rise in the rates of their usage of cigarettes, especially electronic cigarettes, as they approached 10%, which raised the researchers' fears that those young people will turn to smoke traditional cigarettes at future (Mohammed and Neamah, 2021). In recent years, an American study found that twelfth grade students in schools were using e-cigarettes by up to 40%, and some of them later switched to regular smoking (Michael *et al.*, 2021).

A study conducted in more than 200 countries at the international level concluded that the vast majority started smoking between the ages of fifteen to twenty-four years, with approximately 155 million of those within these ages being smokers. It suggested developing educational and therapeutic programs and strategies to protect the future generation from the hazards of tobacco (Reitsma *et al.*, 2021). It is true that adults are the most addicted to tobacco, but adolescents showed a lower frequency of quitting smoking later, which leads to addiction in adulthood (Mohd Radzi *et al.*, 2021).

Three surveys at the national level in three European countries observed a steady and noticeable increase in the tendency of adolescents to smoke or the gradual trend towards smoking (Gallus *et al.*, 2021).

In results similar to what researchers found around the world, researchers in Europe found that most smokers started smoking at the age of fifteen, and that many of them started using tobacco between 16-20 years old. The study showed that the measures and policies taken by European countries contributed to breaking the chain of smoking and reducing the number of those involved, through measures including raising the prices of cigarettes, which prevents the transmission of tobacco between peers as a result of its high price (Fuertes *et al.*, 2021; Jawad *et al.*, 2021).

In the same context, a Kuwaiti study confirmed that tobacco smokers at the present time started before the legal age, and that there is an increasing popularity of electronic cigarettes, as well as hookah among adolescents. Between thirteen and fifteen years, the proportion of smokers was about 15% (Esmaeil *et al.*, 2020).

This trend was confirmed by a Qatari research on the same subject, as there is a great demand for young people in Arab countries to consume numerous tobacco products. This is also the conclusion of the two Iraqi researchers who conducted a study on the information of middle school students about electronic cigarettes and concluded that it is important to educate students from adolescence on the dangers and harms of smoking (AlMulla *et al.*, 2021; Mohammed and Neamah, 2021).

Cigarette component:

The chemical components of cigarettes and the smoke produced as a result of tobacco combustion are highly toxic to humans and contain an addictive substance. Studies have shown that cigarettes contain between

4,000 and 7,000 highly dangerous chemicals, including more than 60 that cause all types of cancer (Irish Cancer Society, 2021).

Among the toxic and chemical components found in each cigarette are the following (Irish Cancer Society, 2021; American Cancer Society, 2020; Slaughter *et al.*, 2011):

First: an alkaline substance that affects the human brain and causes addiction, called nicotine, which is toxic and does not contain color and is extracted from tobacco.

Second: The tar substance, which is characterized by its brown color and milky viscous nature when the burning tobacco cools, which leads to lung cancer when it accumulates in the lungs.

Third: The carbon monoxide resulting from the combustion of cigarettes is considered a highly toxic gas and contains neither color nor odor. When it enters the smoker's blood, it affects the work of the cardiovascular system. Some studies have estimated that one fifth of the smoker's blood may carry this toxic gas instead of oxygen gas.

Fourth: The substances used in pesticides, especially arsenic, were also found in the smoke of burning cigarettes.

Fifthly: Ammonia compounds, or rather, the poisonous ammonia gas. It is also odorless and colorless, resulting from the burning of cigarettes. Note that these compounds are found in detergents and chemical fertilizers, and they use them to increase the effectiveness of nicotine.

Sixth: The researchers also found that cigarette burning products contain acetone, a solvent for nail polish.

Seventh: In the smoke of burning cigarettes, a dangerous and very toxic substance was found, called toluene. This substance is used in the

manufacture of tires, rubber materials, explosives, as well as industrial ink and resins.

Eighth: As a result of the use of pesticides throughout the cultivation of the tobacco plant, many of their types later remain attached to the plant during the production of cigarettes.

Ninth: The researchers found traces of a radioactive substance called polonium (210), and this radioactive element is related to the manufacture of rockets and their fuel, in addition to nuclear bombs.

Tenth: One of the products of burning tobacco is methanol, a fuel used in aircraft.

Health effects of smoking:

Scientific facts and studies have undoubtedly proven that smoking tobacco is a chief cause of many health problems such as respiratory diseases and cancers, as well as problems related to heart diseases, in addition to the negative effects on the pregnant woman and her fetus (CDC, 2020b).

Tobacco and cardio-vascular problems: According to what was published by "Center for Disease Control" in America and countless studies, tobacco smoking (including passive smoking) is a reason of problems in the cardiovascular system, and these problems include low high-density lipoprotein in the blood, which is one of the proteins that are beneficial to the body, besides high levels of harmful cholesterol in the body. (triglycerides), moreover, smokers have high-viscosity and fast-clotting blood, which in turn impedes blood circulation to the brain and heart (hazard of heart attack and stroke), not to mention its role in narrowing and thickening blood vessels (CDC, 2020b; Bhatnagar *et al.*, 2019; Kondo *et al.*, 2019; Alomari and Al-Sheyab, 2018; Stallones, 2015).

Tobacco smoking mainly causes a collection of diseases termed "chronic obstructive pulmonary disease (COPD)", which includes emphysema, and sometimes smoking causes asthma, in addition to chronic bronchitis, which are illnesses characterized by respiratory problems and narrowing or obstruction of the airways. Studies in America found that three-quarters of the deaths as a outcome of these diseases were cigarette smokers, and cigarette smoking at an early age (since childhood or adolescence) has a major role in influencing the proper development of the lungs and also constitutes a risk factor for this group of respiratory illnesses in adulthood (Tiotiu *et al.*, 2021; CDC, 2020a; NHLBI, 2019; Pahwa *et al.*, 2017; Salvi, 2014).

Researchers around the world have confirmed that tobacco smoking is a cause of cancer anywhere in the human body (figure 2.16), especially the lungs, liver, pancreas, and even the bladder. Tobacco works to weaken the immune system in the fight against cancer cells, and the toxins caused by tobacco smoking damage the DNA of the cells of the body and expose the range of cells in the human body to problems, and thus these disturbed cells

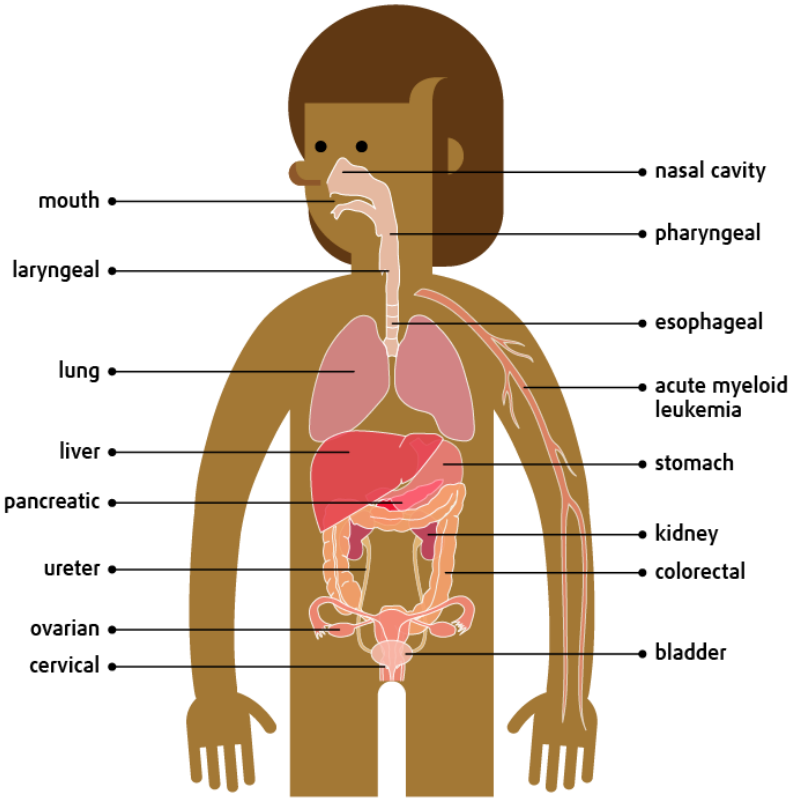


Figure 2.16 Cancers caused by tobacco smoking, *adopted from Canadian Cancer Society.*

may intend to form cancerous tumors. (CDC, 2021; Weber *et al.*, 2021; Bade and Dela-Cruz, 2020; Jacob *et al.*, 2018; Khani *et al.*, 2018)

Additionally, smoking is related to many other health problems, such as perio-dontitis and dental health problems, and also affects fertility in both of females or males, and its negative effects also include sexual dysfunction in males, and smoking is linked with decrease in bone density with progression of age compared to non-smokers. The researchers also confirm that smoking is a reason of blindness as a consequence of macular degeneration in old age, not to mention pregnancy problems such as ectopic pregnancy or birth defects in fetuses and many other issues (ALA, 2021).

2.9. Causes, prevention measures and treatment of substance addiction and abuse:

2.9.1. Causes of substance abuse and addiction:

From a scientific and social point of view, the causes that lead to addiction are not accurately diagnosed, as there are various studies and opinions on the issue. Rendering to the researchers, there are aspects that might contribute to people's tendency towards addiction, mainly adolescents and youth. Thus, there is no absolute theory that explains the root of addiction and the susceptibility of individuals to engage in this destructive behavior (Schuckit, 2017; Cousijn *et al.*, 2018; Townsend and Morgan, 2018).

1- Biological roots: According to published scientific studies, children of families who are addicted to drugs and, for instance, alcohol are extra probable to be addicted to these substances later, so environmental motives play a role with the importance of the genetic factor. Also, scientists, and through long-term research, have concluded that the addiction of one of the twins is usually a contributing factor to the addiction of the other. In addition, when studying the adopted children, it was found that children

whose real (biological) parents were addicts were more prospective to turn out to be addicted compared to those whose parents (biological) were not addicted. This prompted researchers, societal and behavioral theorists to consider alcoholism, for example, as an inherited genetic factor that helps addiction with the availability of social causes and an environment conducive to addiction. (Schuckit, 2017; Haverfield and Theiss, 2016).

Closely, the researchers concluded as an outcome of studying the chemical effect of addictive substances such as alcohol on animals that the use of these elements stimulates the dopamine, and leads to a feeling of euphoria and enjoyment, and thus distributes this substance all over the brain, thus leads to differences in the stability of neurotransmitters responsible for pain and enjoyment. Which led the researchers to suggest that some individuals have a feeling and an interior alarm that for example restrict their consumption of alcohol, to an amount that leads to addiction, while others do not have this internal feeling and thus continue until they become addicted and poisoned (Cooper *et al.*, 2017).

2- Psychological influences: In addition to what was mentioned above, the scientists found that psychological factors, dynamics and the nature of the addicted family have a significant impact on the addiction of the children of these families later. Where they derived to assumption that children of families addicted or using psychoactive substances adopt such practices later as a result of the lack of proper care, guidance and guidance for the child and the absence of a sound model in the parents, and thus the inability of the children of such families to resist the circumstances surrounding them As a result, these adolescents resort to addiction due to their lack of proper social relationships and the lack of skills to adapt to harsh conditions. Therefore, some people resort to alcohol to relieve feelings of anxiety and relieve stress, but they do not know that alcohol will later have

a strong impact on anxiety disorder and nervous tension when addiction occurs (Videbeck, 2020b; Haverfield and Theiss, 2016).

3- Environmental and social aspects: Undoubtedly, the behaviors of peers and the social environment surrounding the individual, as well as factors related to the local culture, have a direct impact on the individual's involvement in the abuse and addiction of psychoactive substances. The statistics also showed that adolescent addicts and tend to abuse substances such as alcohol and cannabinoids of all kinds, while adults are addicted to more dangerous substances such as opiates (including medical drugs) and also cocaine. Besides, should not forget that in Western and non-Islamic nations alcohol is legal, while in many Islamic-countries alcohol is socially and legally unacceptable, and the same is true of hashish, where countries like Canada allow its consumption and open some licensed cafes for the purpose of using it by limits and other countries reject this approach. In America, there are states that legalize the usage of marijuana for medical reasons, and others that criminalize it. The researchers noted that the cities with high rates of addiction are rampant in crime, theft, unemployment, along with education at a low level. Which leads to the fact that the influence of the social environment and the habits of the community is great on the involvement of young people in such practices (Raffee *et al.*, 2021; Videbeck, 2020b; Haverfield and Theiss, 2016; Jonathan, 2016; Unlu and Sahin, 2016; Berten *et al.*, 2012).

It is also worth mentioning what was mentioned by the published scientific research on the causes of substance abuse and addiction among high school students and adolescents, which can be summarized as follows (Anierobi *et al.*, 2020; Al-Debs and Adaileh, 2019; Sebsibie, 2018; Hasam and Mushahid, 2017; Adhroom *et al.*, 2016; Jonathan, 2016; El-Shaery, 2012):

1- The student's curiosity to try new things and the belief that such materials are an interesting experience due to the lack of sufficient knowledge about addiction.

2- Family factors, such as the presence of a sibling who has an addiction, or the presence of parents (one or both) who have a problem related to drug addiction and abuse.

3- The influence of peers (those who are his age or with him in the same class) It was found that this matter has a very strong relationship, as research over the past decades has confirmed the negative impact of peers with incorrect behaviors towards pushing the student towards addiction (note that peers have an impact on the behavior and Indescribable adolescent thinking.

4- The existence of a bad social environment in which drugs are spread and it is easy for an individual to obtain such addictive substances.

5- The factor of unemployment and its spread among the students' families and financial destitution may push towards such practices, either through drug abuse or trafficking.

6- Negative attitudes towards drugs among adolescents and the lack of moral values as a result of improper social education.

7- A strong sense of failure, troubled feelings, inability to face difficulties and a strong sense of frustration, and do not forget the psychological problems such as anxiety and tension that may push the adolescent and young student to use and addiction later to get rid of these disorders.

7- The lack of real support from the family, school and society to contain the problems of this group of society.

2.9.2. Prevention measures for substance abuse and addiction:

The most effective method that aimed to prevent drug abuse and addiction among adolescents and young adults, especially in schools, was through targeted educational programs, and these programs were of several types, specifically (specialized programs to give information only within the school, and moreover, programs to improve social competence to prevent addiction, besides addiction prevention programs through social influence, as well as programs based on theories and models specialized in behavior and health promotion, etc.) some of these theories are mentioned in (Table 2.4). Accordingly, the effectiveness of applied prevention programs varied between moderate to strong effect according to various factors. (Scheier and Being, 2012; Thomas *et al.*, 2013; Faggiano *et al.*, 2014; Kempf *et al.*, 2017; Throuvala *et al.*, 2018; Volkow *et al.*, 2019).

Table 2.4. Models and theories mostly used in prevention programs regarding substance addiction and misuse:

Theory or model	Theorist	Year
General system theory	Bertalanffy	1968
Social Learning Theory	Bandura	1971, 1989
Health Belief Model	Rosenstock and others	1974, 1988
Family Social Learning Model	Patterson	1975
The Ecology of Human Development Model	Bronfenbrenner	1979
Health Promotion Model	Pender	1982
Theory of Planned Behavior	Ajzen	1991
Comprehensive Social Influence Model	Sussman and others	1995-2004
Theory of Behavioral Problems	Jessor	2001

The role of the nurse in the prevention of addiction can be determined through two strategies that are the mainstay of the community health nursing specialty, and they are health promotion and prevention: health promotion, it includes the nurse developing plans to confront addiction through

specialized programs of problem-solving skills, also enhancing self-confidence and working to strengthen societal attitudes towards health issues. As for prevention strategies, they include educating the community and its members and cooperating closely with the legislative and executive authorities in the government to tighten control over the abuse and circulation of these substances. It also includes establishing treatment programs to reduce the harmful effects of addiction on the addict and his family (Clark, 2014).

2.9.3. Treatment methods and measures regarding drug abuse and addiction:

Since adolescents are the fastest people to imitate others, and according to studies, most of the addicts of the young age groups started the process of drug addiction in this way, and therefore this matter can be relied upon in behavioral therapy for adolescents by presenting a healthy model among their peers. The principle of wise reward can also be used carefully, as adolescents are the most susceptible people to behavioral adaptation, so addicts from these groups are taught to deal with situations that compel them to become addicted. Usually, treating adolescents requires the presence of one of the parents by his side to support him, and it requires encouragement and perseverance to obtain satisfactory results (Walker, 2013).

However, as is the case with the causes of addiction, opinions and theories vary about the method of addiction treatment, knowing that everyone agrees in some matters such as the necessity of pharmacological, psychological and behavioral treatment, but the most important thing that distinguishes this matter is that some suggest treatment in two stages, specifically treatment and rehabilitation, while others they call for the application of behavioral theories, the most famous of which is the theory of “trans-theoretical model”, or it is called the stages of change, knowing that

some also differ in dividing it into five or four stages. (Szupszynski and de Ávila, 2021; Connors *et al.*, 2013; Tracy *et al.*, 2012).

Hence, this theory provides a complete practical context for understanding the mechanism of sequential changing of behavior through five stages. This practical model assumes that individuals tend to change the behavioral approach through sequential stages (first is Precontemplation, and the next one is Contemplation, the third stage called Preparation, and fourth stage is for Action and finally Maintenance stage), and the last stage includes relapse prevention as a basic foundation (Harland *et al.*, 2015).

Besides, any program for treatment of drug addiction must have the following main pillars: drug detoxification, pharmaceutical medications used to treat drug withdrawal symptoms, behavioral support for the addict and psychological treatment accompanying physical therapy (Derbali, 2018). Thus, the most popular treatment levels are (5-levels) of following (Azab *et al.*, 2017):

First-stage: this phase is represented by the process of emptying drug toxins from the body: (detoxication): thus, it is 1st stage of starting addiction treatment, where therapists resort to the process of ridding the addict's body of the remnants of toxins of psychoactive substances that he used and accumulated inside him. According to therapists and researchers, this step is essential, necessary and absolutely indispensable.

Second-stage: It deals with the treatment of withdrawal symptoms from drug which the addict is being treated, and addicts are usually detained in treatment & rehabilitative centers specially prepared for the treatment of addicts and under the supervision of specialized doctors and nurses.

Third-stage: It deals with the process of rehabilitating (qualification) the addict psychologically and behaviorally through therapeutic sessions (group therapy, for example) to protect the addicted person from recurring

to the habit of addiction or the so-called relapse. Usually, during this treatment period, the patient is given calculated doses of some medications to help him suppress the urgent desire to coming back to the substance that he is being treated for.

Fourth-stage: as for this stage, it specializes in psychological treatment sessions by a specialized psychotherapist, which is very important as it permits the client to talk about his condition and experience, which led him to turn out to be addicted to psychoactive substances. This stage is crucial to resolve these psychological issues before discharging from psychiatric center.

Fifth-stage (particularly to prevent relapse): It is the most dangerous stage. Here, medicines are described to activate the normal brain function and reduce the desire of the person who has recovered from addiction to return to any narcotic substances. Of course, periodic reviews and examinations are conducted to ensure the stability of the condition of recovered client and to certify his return to a healthy life.

2.9.4. Nursing intervention for disorder of substance addiction and abuse:

In general, the mental health nursing literature indicates that ***nursing care*** for addiction and substance abuse commonly includes the following (Videbeck, 2020b; Townsend and Morgan, 2018):

1- Effort to establish a reliable therapeutic relationship with the addicted person e.g., through honesty.

2- Directing the patient towards a positive attitude to accept the idea that his addictive behavior is unacceptable, but that he is welcomed as a reformable member of society.

3- Correct education and correcting misconceptions about drugs on the opposite side.

4- Diagnosing the behaviors and situations that the addict faced and was not able to adapt to, and explaining the main reason for this, which is the addiction to psychoactive substances.

5- Confronting the patient with reality with caution and care, and not reminding him too much of painful incidents related to addiction.

6- Not accepting excuses from the addict and trying to inflict blame on other individuals because of his behavior.

7. Encourage the addicted person to be active in the group and in community activities , as well as using group therapy.

8. Immediately express nurse appreciation and respect of the client's insights gained about disorder and responsibility acceptance.

9. Initiate the exploration of motivations and the readiness of the patient for change with techniques of motivational interviewing.

2.10. Attitude toward substance abuse and drug addiction:

According to scientific sources, the definition of attitudes: is a personal psychological tendency towards a specific topic or matter that a human express, whether others agree with it or disagree with it. In detail, attitudes determine a person’s judgment on what has been accomplished, and what results from the matter. Likewise, attitudes impact feelings, behaviors and thoughts of any individual. Usually, a person seeks to live in an environment in which attitudes are steady with his own. Therefore, any changes in attitudes are considered by researchers as an attempt to find a social balance in the individual's societal environment, and they consider the approach or agreement of attitudes of peers as evidence. Unfortunately, researchers around the world continue to uncover reports of social and moral liberalization that leads to wrong attitudes toward addiction among young people. Besides, the perception of students toward addictive substances

could inhibit or facilitate drug abuse (Mousavi *et al.*, 2014; Harpe *et al.*, 2015; Shah *et al.*, 2020).

In psychology, attitudes are divided into three categories: Attitudes are either emotional, which means the individual's feeling about a certain thing, situation, or object, and is evaluated on the basis of either negative or positive. Whereas, for the second attitudes, they are behavioral, which means the person's intention to reply to an event or thing, or his actual response to that event or thing. And finally, cognitive attitudes: which means the extent to which an individual believes or knows the objectivity of a particular situation (Gross, 2020).

Attitudes of youth is considered as a risk factor regarding substance abuse and negative attitude directs young students to engage in addictive practices (Adibelli and Olgun, 2016). Also, the widespread availability of drugs in society may be another reason related to wrong attitudes to drug or alcohol abuse, according to a Swedish study. Among the risk factors that negatively affect and lead to unhealthy attitudes and dangerous addictive behaviors are personal characteristics, as well as the attitudes of the family or parents to drugs (Mousavi *et al.*, 2014; Shah *et al.*, 2020).

According to Iranian study about attitudes toward opium abuse, the attitudes played central role in drug addiction epidemic across whole country. Besides, the society culture had crucial impact on peoples attitude, thus attitudes are not only affected by personal but with socio-environmental influences, so, the study recommended for establishing informational and educational programs to improve attitudes on narcotics abuse. (Zarghami, 2015). Culture has a pivotal role in people's attitudes towards the use of psychoactive substances such as alcohol. In principle, Muslims do not consume alcohol, but this beverage is part of the religious life of Jews and Christians. Also, beliefs play a role in this matter. Original American societies use some kind of addictive plants in their pagan rituals (Aoki *et al.*,

2017; Schuckit, 2017). Correspondingly, Jordanian study on high school students made emphasis on Islamic religion role in protecting high school students from wrong direction of attitude toward drug abuse and addiction (Haddad *et al.*, 2010).

A recent scientific paper concluded after applying an educational program on adolescent students, that knowledge improved and subsequently positive attitudes increased toward drug abuse refusal (Prema, 2018). Consequently, attitude enhancement was required for developing critical skills for preventing future addiction (Farouk *et al.*, 2018). Similarly, Attitudes are also affected by what the students perceive (cognition) about healthy behaviors. Therefore, to change behavior, programs need to change perception, and subsequently, attitudes towards addictive topics (Sarami *et al.*, 2009).

Attitudes among student adolescents considered as important framework side by side with knowledge for gaining successful addiction prevention programs (Nebhinani *et al.*, 2013).

Likewise, scientific literature refers to the fact that for decreasing substance abuse besides improving knowledge, also attitudes must be influenced in order to obtain effective outcomes (Zabadi *et al.*, 2018).

However, studies on many issues confirmed the impact of good knowledge on any issue, will constantly improve the attitudes on selected issue (Al-Tameemi, 2016). Saudi Arabian study referred that students' drug awareness level positively associated with their attitudes (Siddiqui and Salim, 2016). As well as, another study confirmed the strong relation among beliefs of students about any drug and attitudes to misuse that drug (Fooladvand, 2020). Similarly Iranian study on high school students concluded that constructing and applying such programs (knowledge and attitude enhancement) will increase the students' level of confidence and

thus making them stronger in facing substance misuse or addiction (Geramian *et al.*, 2014).

2.11. Previous studies regarding substance abuse and addiction among high school student:

School health education is a modern approach to raising knowledge and improving students' attitudes towards administering substances with narcotic effect in order to prevent or at least reduce the burden of this problem (Mahmood *et al.*, 2018). A number of previous researches published in scientific journals that are closely related to the program will be listed, noting that descriptive studies were not mentioned, and the matter was limited only to studies that are educational programs.

First study: A recent paper done by Gurung and others in 2020 to assess program effectiveness among students of high schools in Nepal concerning knowledge of substance abuse by using quasi-experimental approach and included one hundred and fifty-five school students. The outcome of study exposed inadequate knowledge regarding substance misuse in pre-study exam (nearby 70%) of school adolescents, whereas, in the second and third test after applying program majority of students revealed moderate knowledge regarding topic. The researchers concluded that program attained the stated aims and was effective in enhancing knowledge, besides it exposed the necessity to apply such programs due to high risk of adolescents substance misuse. (Gurung *et al.*, 2020).

Second study: Previous work done in 2019 by Turkish researchers Büyüköztürk and others, and aimed to evaluate effectiveness of drug addiction program for increasing turkish students (in primary, middle and high-school) information and awarness concerning issue of addiction. Moreover, five thousand and fivehundred and seventy pupils were included in the study sample by using just one group without control over two phases.

So, the findings of study revealed successful program in increasing knowledge and awarness of pupils toward tobacco addiction. While only students of high schools informed about drug addiction and alcoholisim. In nutshell, the study concluded that the execution of such programs is very necessary, taking into account the specification of each school stage. (Büyüköztürk *et al.*, 2019).

Third study: A study for measuring effectiveness of drug abuse knowledge program for Pakistani students in Lahore city, done through Naseemullah and others in 2019. One hundred students (high. School) in one group included in this quasi-experiment study. Moreover, results reported that in pre assessment students possessed few information regarding substance abuse compared with significant enhancement after program. Thus, researchers concluded that in the consequence educational program will change behavior of adolescent students based on knowledge (Naseemullah *et al.*, 2019).

Fourth study: Indian researchers by using true-experimental study with two groups one for control and the other one for study. Anju and Rajamani in 2019 conducted a constructed program with aim of evaluation its effectiveness on knowledge for alcohol abuse among adolescent students. The methods of study reported that sixty students divided equally into control & study. After implementation of study findings revealed significant improvement for study group students. The important conclusion reached by investigators that structuring and implementing of educative program not only increase knowledge but leads to decrease consumption of alcohol and thus effects the behavior (Anju and Rajamani, 2019).

Fifth study: At earlier time, during 2018 Iraqi study conducted by Mahmood and others upon high-school students' knowledge intended for substance abuse through quasi-experimental education & intervention program. By using only one group over two assessments the researchers

applied the program by sample of two hundred and eighty students from high schools located in city of Erbil. However, the study findings showed significant difference between the pre-program exam and the post-program test, where the students' knowledge shifted from moderate (nearly 38%) into good knowledge assessment (51% approximately). The researchers clarified that the used approach was good for knowledge program but weak in terms of interventional program. Yet, the benefit of program in advancing students level of knowledge was determined. (Mahmood *et al.*, 2018).

Sixth study: Correspondingly, at same year (2018) Kaur and others performed a structured teaching program in order to upgrade adolescent student levels of knowledge and attitudes direction concerning substance misuse with aim of determining program effectiveness toward issue under research. Also, researchers applied one group quasi-experimental study over two tests only with only 60 male students from high school four stages in Punjab (9^{th}, 10^{th}, 11^{th} and 12^{th}). Outcome showed moderate to insufficient knowledge in prior to exam and positive attitude for vast majority. Besides, the post-program assessment revealed moderate to good knowledge and positive attitude for all participants. The study concluded strong association among attitude with knowledge which increased mutually, and the applied program was effective in reaching objectives. Furthermore, recommendation set for applying experimental approach containing both control and study groups (Kaur *et al.*, 2018).

Seventh study: A program applied in Malaysian schools in order to prevent substance abuse among students, was done by Tan and others in 2018. The school-based program done in three phases (tests) one prior program and two after it. The quasi-experimental study included five hundred and seventy-nine students from different schools. The results for attitudes using R.M. ANOVA test showed that the conducted program had large effect size, while, the attitude R.M. ANOVA showed medium effect

size, but the program was effective in improving both knowledge and attitude between the pre and two post/tests. The study reached to conclusion that the students' knowledge and attitudes improved but there is a need for future modification and improving the program (Tan *et al.*, 2018).

Eighth study: Consistently, Hansadah and Sonalika in 2018 conducted awareness program among Indian adolescents to promote their knowledge concerning substance abuse, by applying quasi-experimental design and single group with two-tests (pre and post). A sample of total fifty adolescents of 14 years old to 19 years old were included. The outcome reported that the knowledge about substance misuse was inadequate before the education and elevated to be adequate after program implementation, whereas regarding the effectiveness issue the program was effective. The researcher recommended to apply such programs and to encourage nurses at community health level to use prevention-promotion approach to protect youth from drug abuse and addiction (Hansadah and Sonalika, 2018).

Ninth study: Previous work don in 2017 by Gopi and Deepa, aimed to evaluate the program effectiveness in rising attitudes and knowledge of adolescents toward alcohol use. Through pre-experimental study a single group of one hundred school students were involved in pre-post approach. The results revealed insufficient knowledge and attitude in pre-exam whereas the program raised attitude and knowledge in post-examination. So that, the conclusion which was drawn highlighted the importance of adolescents health education. (Gopi and Deepa, 2017)

Tenth study: Another research accomplished in Lebanon in 2014, conducted program on high school students for developing attitudes and knowledge in protection from abuse of psychoactive substances. Based on prior program trained teachers educated students (training the trainees). So, the results of this quasi-experimental study reported that knowledge and attitude of students elevated thus there is effectiveness in peer-led programs.

The final conclusion made was ensuring to applying such peer led program in order to raise adolescents competence and confidence in confronting addictive substances. (Arevian and Khasholian, 2014)

2.12. Theoretical Framework:

In the search for a theoretical base to support the current doctoral thesis, which is an educational program for students at the secondary level, the theory of general systems (GST) was chosen, and thus it constitutes a general conceptual framework that guides current dissertation's effort. This theory was made public in 1968 by a biologist from Austria. According to what was published by the Austrian scientist "Ludwig von Bertalanffy", the systems have sub-components that interact with each other and also interact with the surrounding environment and are based on the principle of open systems. It has four components, which are in sequence the inputs, then the throughput(operations), followed by the outputs and finally the feedback. Note that this theory is used in educational systems and describes it and was created to suit all sciences, including nursing sciences, and what it contains of research, educational, and even clinical aspects. It is considered a method and a model for conducting an investigation (Kadhim, 2020).

Moreover, GST can be used in school health education as theoretical framework to guide the community health nurses to educate the students and achieve best outcome (increasing knowledge and improving attitudes). Additionally, GST provides a roadmap to implement educational program because it has more concrete concepts that focus on knowledge acquisition through input process to transfer it into better knowledge and attitude as an output.

The GST guides the nurse educator in which it facilitates the development process of structuring an educational program. This can be a system that serves other systems as a whole. In addition, the importance of this theory lies in its potential for evaluating information (energy) that can

help students to understand interrelated concepts under studying. This theory can be considered as a building block in terms of providing an avenue that delineates improving knowledge and attitudes of high school students regarding substance abuse and addiction. In community health setting, nurses deal with not only physical health problems (system) of adolescents and young adults who are at risk for addiction, but also with the knowledge and attitudes of (subsystem) students. This theory asserts that enhancing knowledge and attitude of targeted student can cause a positive influence on other students.

The nurse educator is an open system that interacts with other open systems (high school student, their families, and school administrations) to exchange the energy or information in order to gain homeostasis situation. In this situation, the researcher is a community health nurse educator who provided an educational program regarding drug addiction and substance abuse for high school students in order to grip modification in terms of improving knowledge and attitudes.

The youth students must be aware that they are at risks for many disorders (psychologically, physically and educationally). This age group faces countless serious health problems for instance drug addiction and substance misuse; thus, the students needs to prevent future involvement in substance abuse and drug addiction by gaining new reliable knowledge throughout an educational program (stimuli) in high school systems. Besides, the high school students need to understand the seriousness of drug addiction in order to avoid engagement in high risky and destructive behavior. High school students who receive information can protect themselves from dangerous behavior and embrace attitude change accordingly (throughput).

The purpose behind selecting the GST is to guide this study, for the reason that it focuses on a system as a set of interacting parts within a borderline which make the system as an active functional unit to accomplish

its general goal. The system is classified as open or closed. Open system can be considered as a nurse educator who works collaboratively with high school students to provide updated and scientific knowledge about drug addiction and substance use disorder phenomena to embrace change for increasing knowledge and improving attitudes. The educational program on drug addiction is a set of organized information, matter and energy in and out of the system, and exits knowledgeable students (Kadhim, 2020). Correspondingly, the theory component applied to current program as following:

Input: It is either information or energy that is entered into the system. Here it is represented by the educational program about drug addiction and abuse, and the information and attitudes of students towards it.

Throughput: The process that enables the researcher to modify the input and thus make it useful to the system. And in this study, it expresses the change and improvement in the knowledge and attitudes of students towards the abuse and addiction of psychoactive substances.

Outputs: It is the information and energy that was issued and exited from the system (tests after the program). Output is improved level of knowledge and attitudes of substance abuse and addiction among students.

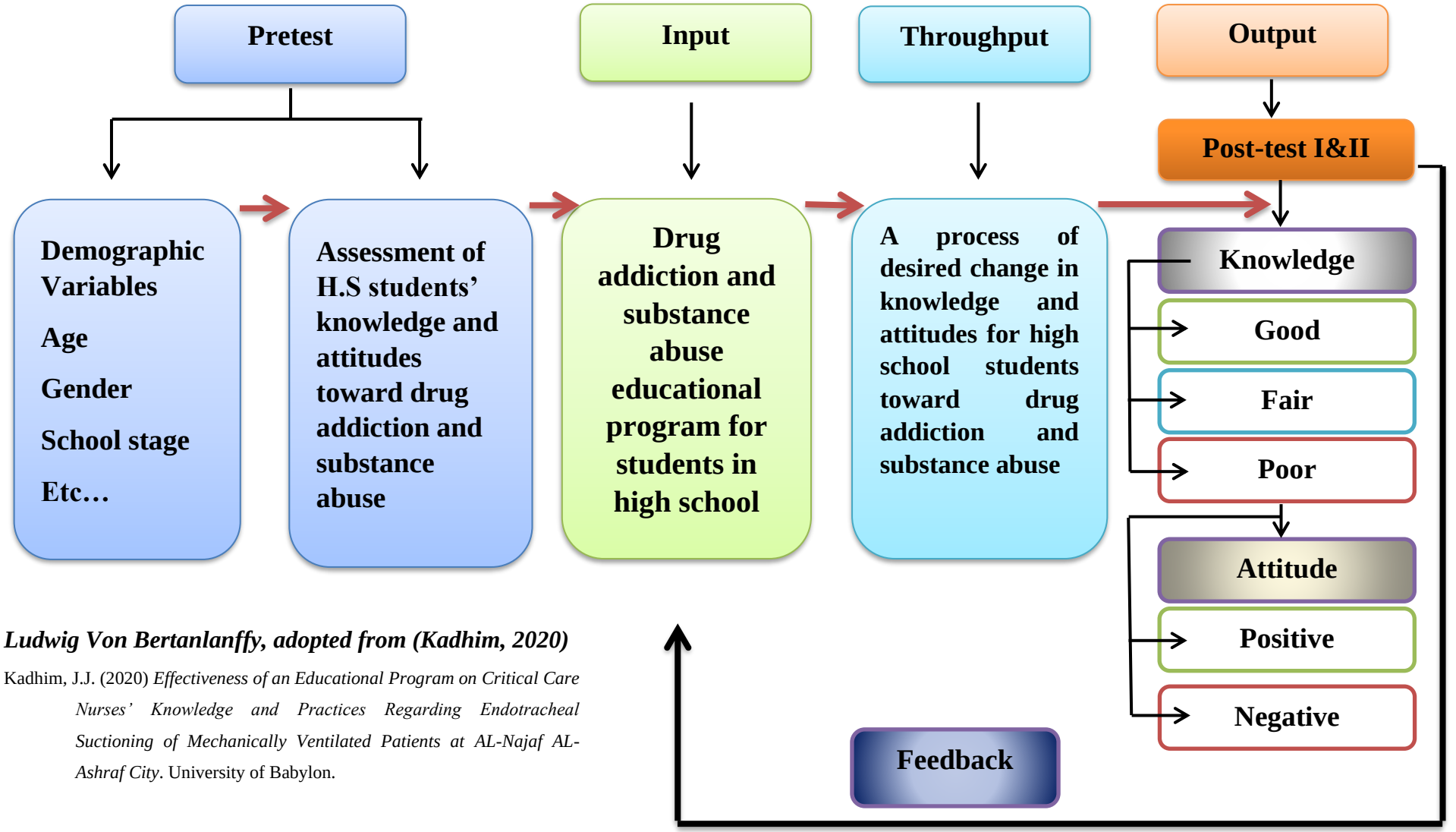
1. Level of knowledge is evaluated like poor, moderate and good.

2. Attitude is evaluated like positive and negative toward drug addiction after implementing educational program.

3. In current study the outcome is evaluated by the post-test 1 and 2, which conducted among high-school students after executing educational program.

Feedback: Its usefulness lies in monitoring and evaluating the system's internal functions. In this program, it is measured by the improvement in knowledge and attitudes of students towards drug addiction. Thus, it measures the effectiveness of conducted program to achieve its aims.

Figure 2.17. Educational Program Conceptual Framework
Drug addiction and substance abuse educational program described Through Conceptual Framework Based on GST



Ludwig Von Bertanlanffy, adopted from (Kadhim, 2020)

Kadhim, J.J. (2020) *Effectiveness of an Educational Program on Critical Care Nurses' Knowledge and Practices Regarding Endotracheal Suctioning of Mechanically Ventilated Patients at AL-Najaf AL-Ashraf City*. University of Babylon.

Chapter Three

Methodology

Chapter three

Methodology

The research methodology generally includes three steps, which are designing, organizing and finally implementing certain procedures in order to collect accurate and reliable data about the problem under study. However, this chapter will demonstrate the overall methods applied, starting by design of study and ending by limitations of current study.

3.1. Study Design:

The current study used a quasi-experimental study design consist of three assessments (Pre-program test, and two tests after program) for study and control group. The study done during the period from (23rd September 2019 to 4th July 2021) by applying an educational program on a sample of high school students regarding their knowledge and attitude toward drug addiction in Al-Najaf Al-Ashraf city.

3.2. Administrative Arrangements and Ethical Approval:

The Administrative Arrangements and Ethical Endorsement was fundamental and decisive part of research work, which included:

1- Protocol of research approved by Community Health Nursing Branch, and official permission taken from University of Babylon, College of nursing to conduct the study.

2- The title, constructed educational program and questionnaire were presented to the Ethics Committee formed within the College of Nursing, which reviewed the study tools (program and questionnaire), and therefore agreed to conduct the study. Official letter provided in 15th March 2020 to conduct study.

3- An official approval was attained from the Education's General Directorate in the Governorate of Al-Najaf.

4- In the last step of the administrative arrangements, an official letter by the (Preparation and Training Department) in the Al-Najaf Education Directorate was issued to the governmental high-schools in addition to private high schools, for facilitating cooperation with the researcher in completing his dissertation. (Appendix A).

5- In addition, the consent of the students and their families (orally) were obtained (especially those under the legal ages), to participate in the study, after explaining the objectives and usefulness of the study to them and assuring that all information provided will be confidential and for scientific and research purposes (autonomy and privacy).

3.3. Study setting:

The educational program was implemented electronically on the Zoom platform, as a result of the health restrictions imposed by the Supreme Committee for Health and Safety of Iraqi government. Note that the phone numbers, names and phones of the parents of the students who participated in the study, were taken from the private and government school administrations after providing them with the official approval. Selected Students were from 12 high schools in Al-Najaf City.

3.4. Study sample:

Total of 70 high school students (from 4^{th}, 5^{th} and 6^{th} grades) were selected through a non-probability (purposive) sample from total 12 high schools which were selected in the present study. High school students who participated in the study were distributed equally into 35 students for each of control and study group. The control group were selected from 4 schools and the study group participants were selected from 8 high schools, and this assortment for the reason that:

1. All high school students were selected from schools in the same geographical area thus there is no diversity in their characteristics in a degree which may affect the study results.

2. The researcher intentionally separated the schools of control and study groups which sample drawn from, in order to prevent high school students of the study group from sharing knowledge and information regarding the study with students in control group.

The following criteria were adopted in selecting students to participate in the study:

Inclusion criteria:

1- Students who are aged from 16 to 20 years old.

2- The high school students who are existed throughout pre-test exam.

3- Parents' verbal approval as essential condition to participate in study for under legal aged students (below 18 years of age).

Exclusion criteria :

1- High school students who were absent at the time of data collection.

2- High school students who are not wanting to join the study.

3- Students in which they are over twenty years old.

Based on aforementioned criteria, the study sample distributed into 33 male student and 37 female students which were assigned by nonprobability technique into control and study groups (16 males for study group and 17 for control group and 19 females for study and 18 for control group).

3.5. The Study Instrument:

In order to achieve present study objectives, an educational program constructed and based on the program also a questionnaire has been created and developed as an instrument for data collection. Previous studies,

guidelines and books were used in development and construction of the educational program on drug addiction and substance abuse.

A- constructed educational program included: knowledge for concepts of drug addiction and substance abuse, general information about drugs (opioid, cannabis, cocaine and amphetamine) addiction and abuse, the physical effects of drug addiction and abuse, the psychological effects of addiction and substance abuse, social and economic effects of drug addiction and substance abuse, knowledge for tobacco and alcohol addiction or abuse, causes, prevention and treatment of drug addiction and substance abuse and directions (recommendations) to prevent addiction and substance abuse.

b- The study constructed instruments involves of the subsequent parts, based on program in order to measure the intended program:

Part I: Demographic data:

This part involves of (14) items on high school students' characteristics including gender, residency, age, high school levels, level of education of fathers, educational level of mothers, occupational status of fathers and occupational status of mothers, family income, four questions about cigarette smoking and alcohol drinking, and whether having previous information on study topic and sources of information if existed.

Part II: High school students' knowledge regarding drug addiction and substance abuse:

The knowledge scale contains of 55 questions distributed into seven domains of knowledge, and the 7th domain contains three sub-domains, in detail, questionnaire domains are:

1st domain (6 questions) about perception of drug addiction and substance abuse, 2nd domain (11 questions) regarding addiction and abuse of drugs (opioid, cannabis, cocaine and amphetamine), 3rd domain (5 questions) concerning physical effects of drug addiction, 4th domain (6 questions) about psychological effects of addiction, 5th domain (3 items)

about socio-economic effects of substance abuse and drug addiction, 6th domain (10 questions) on knowledge about alcohol and tobacco abuse including health and social effects, and finally the seventh domain (14 items) distributed into 3 sub-domains about knowledge of causes, prevention and treatment of addiction and substance abuse.

Part III: Attitudes of high school students toward drug addiction and substance abuse. This part of questionnaire contains of (26) items on (affective, behavioral and cognitive) attitudes toward study issue.

The researcher adopted foreword/ backward translation for the study scales (knowledge and attitude), i.e., the English version of the scales are translated into Arabic version and then experts from English specialty are selected to translate the Arabic version into an English one and to compare the two versions of English instruments. Some modifications are needed to complete the study instrument as the experts' validate (Appendix B).

3.6 Rating and scoring:

Knowledge part of the study instrument consist of two types of scale the domains one to sixth used multiple choice questions with four responses one correct and three incorrect responses the correct response was coded with (2) points and the incorrect response coded with (1) point.

However, the 7th domain of knowledge used three-point Likert scale (Yes, Uncertain, No) and scoring was (2) points for Yes, (1) point for Uncertain and (0) point for No except the question number 48 the score reversed as (0) points for Yes, (1) point for Uncertain and (2) point for No. For all knowledge scale range was calculated and divided by 3 (required knowledge categorize: good, fair and poor) and thus the cutoff point was (0.33).

Regarding attitude part a Likert scale with 5-points (digits) design (starting with strongly-disagree, and ending by strongly-agree) used and the highest scores set to the attitude which is extra positive for rejecting addiction and the lowest score set to the attitude which is more negative, the code varied between positive and negative questions as following: Items (1, 3, 5, 6, 8, 9, 12, 19, 20, 25 and 26) scored as (1) point for strongly disagree, (2) point disagree, (3) points for uncertain, (4) points for agree and (5) points for strongly agree. Whereas, questions (2, 4, 7, 10, 11, 13, 14, 15, 16, 17, 18, 21, 22, 23 and 24) scored as (5) point for strongly disagree, (4) point for disagree, (3) points for uncertain, (2) points for agree and (1) points for strongly agree. As in this scale two responses below 3 (negative attitude) and two responses above (positive attitude), therefore, the cutoff point of 3 was used to differentiate between the positive and negative attitude of participants.

Table 3.1: knowledge and attitude coding

Knowledge scale coding		
Domains	**1st to 6th domain (1-41)**	**Correct = 2 Incorrect= 1**
	7th domain (42-55)	**Yes= 2 uncertain = 1 No = 0 Except item 48 coding reversed**
Attitudes scale coding		
Items	**(1, 3, 5, 6, 8, 9, 12, 19, 20, 25, 26)**	**strongly disagree (1), disagree (2), uncertain (3), agree (4), strongly agree(5)**
	(2, 4, 7, 10, 11, 13, 14, 15, 16, 17, 18, 21, 22, 23, 24)	**strongly disagree (5), disagree (4), uncertain (3), agree (2), strongly agree (1)**

Table 3.2: knowledge and attitude categorize according to mean of score

Mean of score	Evaluation
Knowledge evaluation categorized as	
M.S. ≤ 1.33, means	**poor**
M.S. (1.34-1.67) means	**Fair**
M.S. ≥ 1.68 means	**Good**
Attitude evaluation categorized as	
M.S. ≥ 3	**Attitude considered Positive**
M.S. < 3	**Attitude considered Negative**

3.7. validity of the drug addiction education program and questionnaire:

Face validity of the study instrument and the educational program determined through a panel of **(13)** experts from different specialties (They were selected on the basis of having experience more than 5 years in the field of nursing or medicine), related to the field of the study, **(9)** from the nursing specialties, **(3)** from the Medicine Specialties and **(1)** From the Human Sciences Specialties.

The process of consulting experts aimed to investigate the current study tool for its efficiency in reaching the objectives set, in addition to the clarity of its components and questions. They were:

[3] Expert from Nursing Faculty / Baghdad University.

[2] Expert from Nursing Faculty / Kufa University.

[2] Expert from Nursing Faculty / Babylon University.

[1] Expert from Nursing Faculty / University of Al-Ameed.

[1] Expert from Nursing Faculty / University of Warith Alanbiyaa.

[2] Expert from medicine Faculty / Kufa University.

[1] Expert from College of Languages/ Kufa University

Appendix (C) present the panel of experts with their specialties and years of experience. The questionnaire and the program are submitted to each one of the experts. After review and evaluation by the experts, reveal that the instrument has adequate content and changes have been done to many items according to their suggestions. In addition, some scale items are modified and some of items are removed from the scale. Also, some changes and modification to the program done according to the experts' comments and correction, to be acceptable, useful and comprehensive content.

3.8. Pilot study:

After accomplishment the content validity for study tool from the experts, the pilot study was conducted among (10) high school students over period from January 19, and ended on February 23, 2020. The pilot study purposed to determine the feasibility of the study and to improve the study tool if there any inconsistencies. Initial test was done and data collection was obtained by utilizing a structured questionnaire. One month later, the retest was directed by using the same questionnaire. The pilot sample (selected school and students) were excluded from study sample. The test-retest result revealed in (Table 3.3).

3.9. Reliability:

Stability, replicability and consistency of instrument are indicated through reliability. The reliability of the study tool was examined by Pearson correlation coefficient (r) using test-retest technique to determine questionnaire stability and consistency over time. The obtained value for the knowledge instrument score was ($r = 0.95$) and for the attitude scale the score was ($r = 0.90$). Therefore, the tools of both parts (knowledge and attitudes) are reliable as presented in the following table (3.3).

Table 3.3 Scales Reliability of both attitudes and knowledge:

Scale	Reliability Technique	N	No. of Items	Test Mean (SD) X	Retest Mean (SD) Y	Actual Value (r)	Accepted Value	evaluation
Knowledge	(Test/Re-Test)	10	55	1.541 (0.164)	1.587 (0.162)	0.951	0.70	Reliable
Attitudes		10	26	3.592 (0.351)	3.66 (0.362)	0.90	0.70	Reliable

3.10. Data collection:

Through the application of the self-administrative method the data collecting done (14th October to 2nd December, 2020).

- A list of phone numbers (students or parents) was obtained from high schools' administrators, each high school student detailed with study objectives and verbal consent taken as a condition for participation in program for both (study and control group).
- A licenced one-year subscription of ZOOM meeting platform was purchased in September 19, 2020 in order to get open session time with ability of maximum 100 participant and full-service specification.
- The study instrument was uploaded into google forum, and distributed into 3 copies (pre, post-1 and post-2) for both control and study group.
- An educational video sessions were prepared by investigator to inform high school students about ZOOM program installation, registration and using it to attend sessions of study. Also, a brief video was distributed and sent to participants on how to fill out the questionnaire through a link. This information shared with participants at supervised WhatsApp groups by school administrators.

- Both study and control groups were exposed to pre-test to assess high school students' knowledge of and attitudes toward drug addiction and substance abuse.
- The study group (35 students) were exposed to current online educational program on ZOOM meetings app.
- Participants of both groups were exposed to 1st post-test after finishing the educational program to measure the changes in their attitudes and knowledge regarding study topic.
- After one month of first post-test, 2nd Post-test was done for study and control group to measure effectiveness of the program.

3.11. Implementation of the program:

1. Assessment Phase: in order to measure knowledge and attitudes of study and control group regarding drug addiction and substance abuse, an initial pre-test was performed.

2. Implementation Phase: only the high school students of study group were exposed to the educational program. Which applied throughout five sessions. The time for each session was 40 minutes at 08:00 O'clock Pm. Every week included two sessions on Sunday and Thursday. The program as whole conducted in period from 14/10/2020 to 28/10/2020. Sessions' details are as following:

First session: 14/10/2020, Thursday 08:00 O'clock Pm

1- Brief introduction to program.

2- Concepts of drug addiction and substance abuse.

Second session: 17/10/2020, Sunday 08:00 O'clock Pm

1- General information about addictive substances.

2- Physical effects of drug addiction on human body

Third session: 21/10/2020, Thursday 08:00 O'clock Pm

1- Psychological effects of addictive substances.

2- Social effects of drug addiction on youth social life and relationships.

3- Economical burden of substance abuse and drug addiction on addictive person, his family and community.

Fourth session: 24/10/2020, Sunday 08:00 O'clock Pm

1- Social and Health problem related to alcoholism.

2- Alcohol abuse and addiction physical and mental effects.

3- Harmful substances present in cigarette.

4- Effects of tobacco abuse and nicotine addiction on health of human body.

Fifth session: 28/10/2020 Thursday 08:00 O'clock Pm

1- Revealing causes of substance abuse and advising youth for solutions to avoid such problems.

2- Verification of prevention measures and recommendation to avoid addiction problem.

2- Explaining treatment procedures regarding substance abuse or drug addiction (psychological and medical).

3. Evaluation phase: immediately after two days of finishing program the study group subjects exposed to (Post-test I) Sunday, 31st October 2020. After a month of applying the (Post-test I), the high school students of the study group were exposed to the (the 2nd Post-test on 2nd December) to measure the present program for its effectiveness in improving students' knowledge and attitudes towards addiction or drug abuse.

Application of program according to GST concepts:

As for the application of the general systems theory through the educational program on drug abuse and addiction, the ***input*** according to the concept of the theory was the education program,

which was built and prepared for application, while this matter was preceded by a preliminary assessment of the students' knowledge and attitudes. while the ***throughput*** represents the educational sessions attended by secondary school students on substance abuse and addiction. This was followed by the ***output*** stage, represented by the two tests after applying the sessions and the cognitive and directional responses that resulted from them. And the ***feedback*** was to recognize the result of the effectiveness of the program and the extent of its influence and the strength of the tool used to measure this matter through the statistical testing.

3.11. Teaching and evaluating strategies of the program:

1- ZOOM meetings Platform.

2- Presentation of lectures through Microsoft Office PowerPoint 2019.

3- Videos and pictures for clarification of physical, psycho-social effects of drug addiction.

4- Discussion with students after each lecture.

5- Electronic questionnaire form used in evaluation process.

3.12. Statistical analysis:

The data of the current study towards addiction and substance abuse were analysed using the popular statistical analysis program, which is SPSS (Statistical Package for Social Sciences), specifically the 25^{th} version of it, which was released in 2017, as well as the statistical analysis system for the application and Excel.

1. **Descriptive data analysis:** were involved the following:

   A. Percentage (%)

   B. Mean, standard deviation, and statistical cross tabulation.

2. Inferential data analysis:

This approach is performed through the following methods:

A- Pearson correlation coefficient to determine the correlation between knowledge and attitude for study group.

B. Independent t-test: Pre-test mean differences with post-test mean differences for study & control are determined through the application of the independent sample t-test.

C. ANOVA: Repeated measures of ANOVA were used to evaluate current educational program effectiveness concerning levels of the knowledge in addition to attitudes directions.

D. Chi-square. The chi-square analysis used to test the independency and the association between the study variables.

3.13. Limitations of the study:

1- Technical problems such as internet connection issues or some participants signing out several times and requesting for permission again (waiting room).

2- Economic barriers prevent some students from participation due to absence of electronic device and internet connection.

3- Due to pandemic of Covid-19 the researcher transferred program to be online rather than direct attendance.

Chapter Four

Results

Chapter Four

Results

Table 4.1.: Demographic characteristics of the studied groups of high school students (control and study).

Demographic Data		Study (n=35)		Control (n=35)		Total 70	
		Freq.	%	Freq.	%	Freq.	%
Age Groups (Years)	≤ 18	19	54.29	25	71.42	44	62.9
	> 18	16	45.71	10	28.58	26	37.1
	Mean ±SD	18.3±1.19		17.7±1.06		18±1.15	
Gender	Male	16	45.71	17	48.57	33	47.1
	Female	19	54.29	18	51.43	37	52.9
Residency	Rural	1	2.86	4	11.43	5	7.1
	Urban	34	97.14	31	88.57	65	92.9
Stage	4th Stage	5	14.29	6	17.14	11	15.7
	5th Stage	8	22.86	8	22.86	16	22.9
	6th Stage	22	62.86	21	60.00	43	61.4
Father's Educational level	Illiterate	0	.00	2	5.71	2	2.9
	Read and Write	7	20.00	5	14.29	12	17.1
	Primary school graduate	2	5.71	7	20.00	9	12.9
	intermediate school graduate	9	25.71	4	11.43	13	18.6
	High school graduate	2	5.71	4	11.43	6	8.6
	Institute or college graduate	14	40.00	10	28.58	24	34.3
	Higher studies (M.Sc. & Ph.D.)	1	2.86	3	8.57	4	5.7
Mother's Educational level	Illiterate	2	5.71	4	11.43	6	8.6
	Read and Write	7	20.00	10	28.58	17	24.3
	Primary school graduate	5	14.29	1	2.86	6	8.6
	intermediate school graduate	10	28.58	7	20.00	17	24.3
	High school graduate	2	5.71	6	17.14	8	11.4
	Institute or college graduate	9	25.71	6	17.14	15	21.4
	Higher studies (M.Sc. & Ph.D.)	0	.00	1	2.86	1	1.4
Father's Occupational level	Employed	12	34.29	13	37.14	25	35.7
	Self employed	12	34.29	12	34.29	24	34.3
	retired	5	14.29	2	5.71	7	10.0
	Clerk	1	2.86	3	8.57	4	5.7
	Unemployed	5	14.29	5	14.29	10	14.3
Mother's Occupational level	Employed	7	20.00	9	25.71	16	22.9
	Self employed	2	5.71	1	2.86	3	4.3
	retired	1	2.86	1	2.86	2	2.9
	House Wife	25	71.42	24	68.57	49	70.0
Family Monthly Income	Enough	15	42.86	16	45.71	31	44.3
	Barely enough	17	48.57	14	40.00	31	44.3
	Not enough	3	8.57	5	14.29	8	11.4
Cigarette Smoking	Yes	5	14.29	8	22.86	13	18.6
	No	30	85.71	27	77.14	57	81.4
Family Cigarette Smoking	Yes	25	71.42	22	62.86	47	67.1
	No	10	28.58	13	37.14	23	32.9
Alcohol Drinking	Yes	0	.00	1	2.86	1	1.4
	No	35	100.00	34	97.14	69	98.6
Family Alcohol Drinking	Yes	2	5.71	4	11.43	6	8.6
	No	33	94.29	31	88.57	64	91.4
Total		35	100.00	35	100.00	70	100.0

Freq.: frequency, %: percentage, SD: standard deviation.

According to the (Table 4.1), a total of 70 high school students were included in the study, and divided equally into control and study group (35 students at each group), and the mean age was (18.3±1.19, 17.7±1.06) for study and control group, respectively.

Regarding the gender 33 students were male (16 for study and 17 for control group), and 37 were female (19 for study and 18 for control group). More than 92% of students who participated in the study were urban residents, while only 5 participants were rural residents. Concerning the stage of students, more than 60% of students were from 13^{th} stage.

In regard to educational level of fathers 40% of students' fathers had college degree followed by 25% intermediate school degree, whereas the mothers' educational level was 28% intermediate degree followed by 25% of academic degrees. For occupational level more than 70% of students' mothers are housewives and about 69% of students' fathers were employed or self-employed. Approximately, 50% of respondents replied that income of their families was barely enough.

As well as, the 85.71 of students are not smoking cigarettes, while 71.43% of their families are smoking cigarettes. For alcohol drinking only one respondent answered by yes (in control group), however 6 students responded that had a friend or family members who drinking alcohol.

The vast majority of control group (80%) answered that they have some information on drug addiction and substance abuse, although all study group claimed having previous information on topic of current study (Figure 4.1). The (Figure 4.2) shows that social media (Facebook, twitter, etc.…) and mass media (TV, Radio) were the most prominent sources of previous information.

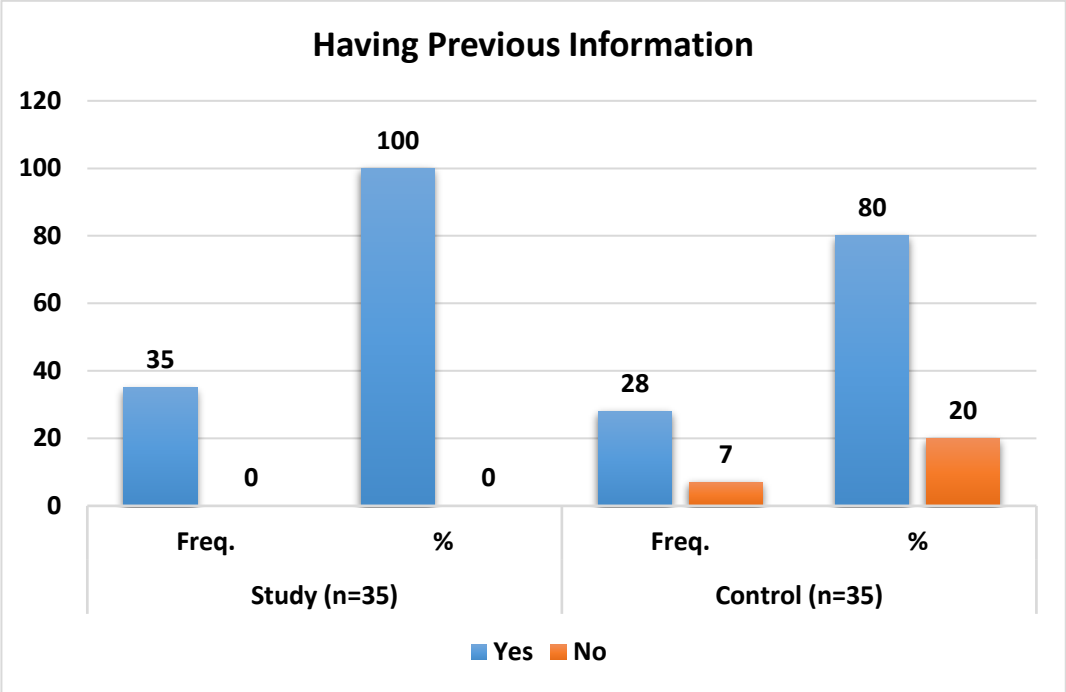


Figure 4.1: distribution of study and control groups according to presence or absence of previous Information among control and study group of students' pre-tests.

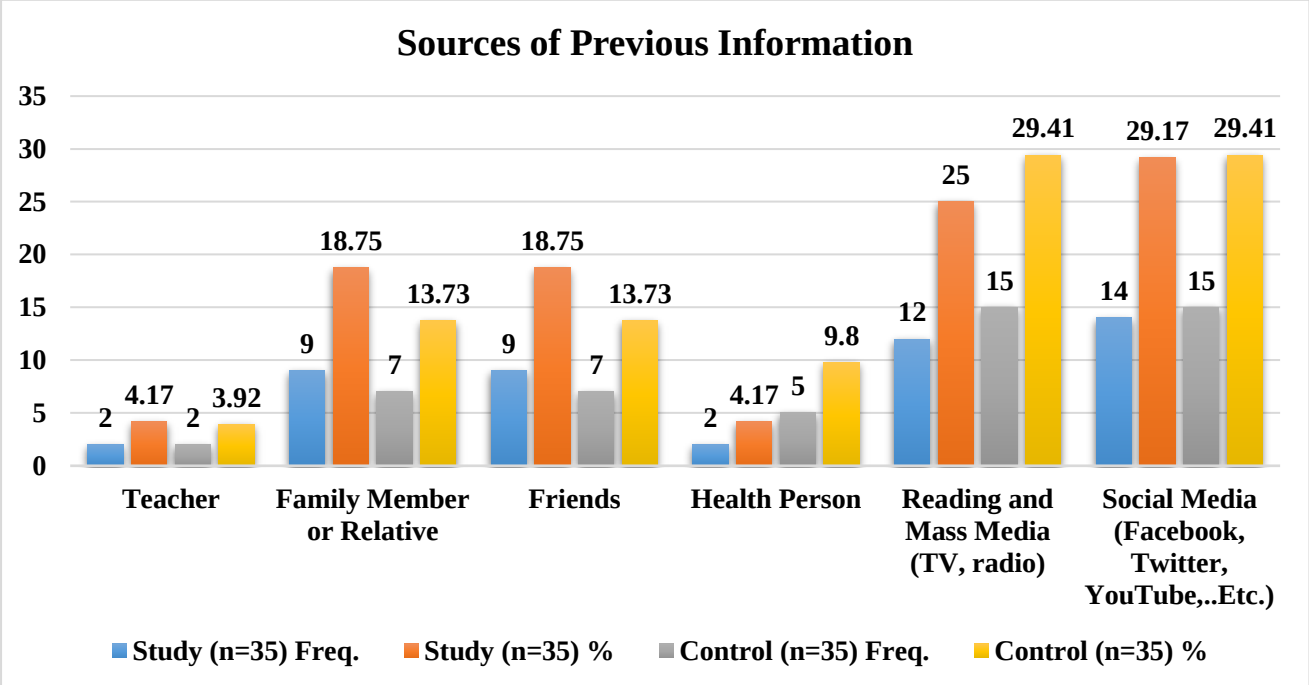


Figure 4.2: Sources of Previous Information among control and study group of students' pre-tests.

Table 4.2: Distribution of the high school students regarding to their Knowledge toward substance abuse and drug addiction for (Pre-test).

Knowledge items		Study Pre				Control Pre			
		Freq.	%	MS	Assess.	Freq.	%	MS	Assess.
Q1	Incorrect	26	74.28	1.27	Poor	26	74.28	1.27	Poor
	Correct	9	25.72			9	25.72		
Q2	Incorrect	26	74.28	1.27	Poor	27	77.14	1.23	Poor
	Correct	9	25.72			8	22.86		
Q3	Incorrect	16	45.71	1.54	Fair	22	62.86	1.37	Fair
	Correct	19	54.29			13	37.14		
Q4	Incorrect	13	37.14	1.63	Fair	7	20.00	1.80	Good
	Correct	22	62.86			28	80.00		
Q5	Incorrect	27	77.14	1.23	Poor	26	74.28	1.27	Poor
	Correct	8	22.86			9	25.72		
Q6	Incorrect	21	60.00	1.40	Fair	15	42.86	1.57	Fair
	Correct	14	40.00			20	57.14		
Q7	Incorrect	17	48.57	1.51	Fair	25	71.43	1.29	Poor
	Correct	18	51.43			10	28.57		
Q8	Incorrect	15	42.86	1.57	Fair	14	40.00	1.60	Fair
	Correct	20	57.14			21	60.00		
Q9	Incorrect	4	11.43	1.89	Good	2	5.71	1.94	Good
	Correct	31	88.57			33	94.29		
Q10	Incorrect	25	71.43	1.29	Poor	14	40.00	1.60	Fair
	Correct	10	28.57			21	60.00		
Q11	Incorrect	15	42.86	1.57	Fair	14	40.00	1.60	Fair
	Correct	20	57.14			21	60.00		
Q12	Incorrect	13	37.14	1.63	Fair	22	62.86	1.37	Fair
	Correct	22	62.86			13	37.14		
Q13	Incorrect	21	60.00	1.40	Fair	14	40.00	1.60	Fair
	Correct	14	40.00			21	60.00		
Q14	Incorrect	29	82.86	1.17	Poor	27	77.14	1.23	Poor
	Correct	6	17.14			8	22.86		
Q15	Incorrect	25	71.43	1.29	Poor	28	80.00	1.20	Poor
	Correct	10	28.57			7	20.00		
Q16	Incorrect	20	57.14	1.43	Fair	18	51.43	1.49	Fair
	Correct	15	42.86			17	48.57		
Q17	Incorrect	17	48.57	1.51	Fair	19	54.29	1.46	Fair
	Correct	18	51.43			16	45.71		
Q18	Incorrect	25	71.43	1.29	Poor	25	71.43	1.29	Poor
	Correct	10	28.57			10	28.57		
Q19	Incorrect	26	74.28	1.27	Poor	17	48.57	1.51	Fair
	Correct	9	25.72			18	51.43		
Q20	Incorrect	17	48.57	1.51	Fair	11	31.43	1.69	Good
	Correct	18	51.43			24	68.57		
Q21	Incorrect	11	31.43	1.69	Good	21	60.00	1.40	Fair
	Correct	24	68.57			14	40.00		

Knowledge Abbreviation: M.S. ≤ 1.33, means "poor", M.S. (1.34-1.67) means "Fair" and M.S. ≥ 1.68 means "Good".

Table 4.2 Knowledge items Continued		Study Pre				Control Pre			
		Freq.	%	MS	Assess.	Freq.	%	MS	Assess.
Q22	Incorrect	31	88.57	1.11	Poor	31	88.57	1.11	Poor
	Correct	4	11.43			4	11.43		
Q23	Incorrect	20	57.14	1.43	Fair	11	31.43	1.69	Good
	Correct	15	42.86			24	68.57		
Q24	Incorrect	23	65.71	1.34	Fair	25	71.43	1.29	Poor
	Correct	12	34.29			10	28.57		
Q25	Incorrect	9	25.71	1.74	Good	5	14.29	1.86	Good
	Correct	26	74.29			30	85.71		
Q26	Incorrect	24	68.57	1.31	Poor	25	71.43	1.29	Poor
	Correct	11	31.43			10	28.57		
Q27	Incorrect	24	68.57	1.09	Poor	14	40.00	1.29	Poor
	Correct	11	31.43			21	60.00		
Q28	Incorrect	14	40.00	1.60	Fair	10	28.57	1.71	Good
	Correct	21	60.00			25	71.43		
Q29	Incorrect	11	31.43	1.68	Good	3	8.57	1.51	Fair
	Correct	24	68.57			32	91.43		
Q30	Incorrect	15	42.86	1.57	Fair	10	28.57	1.71	Good
	Correct	20	57.14			25	71.43		
Q31	Incorrect	12	34.29	1.66	Fair	5	14.29	1.86	Good
	Correct	23	65.71			30	85.71		
Q32	Incorrect	28	80.00	1.20	Poor	22	62.86	1.37	Fair
	Correct	7	20.00			13	37.14		
Q33	Incorrect	25	71.43	1.29	Poor	26	74.28	1.27	Poor
	Correct	10	28.57			9	25.72		
Q34	Incorrect	20	57.14	1.43	Fair	17	48.57	1.51	Fair
	Correct	15	42.86			18	51.43		
Q35	Incorrect	12	34.29	1.66	Fair	18	51.43	1.49	Fair
	Correct	23	65.71			17	48.57		
Q36	Incorrect	16	45.71	1.54	Fair	11	31.43	1.69	Good
	Correct	19	54.29			24	68.57		
Q37	Incorrect	14	40.00	1.60	Fair	19	54.29	1.46	Fair
	Correct	21	60.00			16	45.71		
Q38	Incorrect	22	62.86	1.37	Fair	10	28.57	1.71	Good
	Correct	13	37.14			25	71.43		
Q39	Incorrect	16	45.71	1.54	Fair	5	14.29	1.86	Good
	Correct	19	54.29			30	85.71		
Q40	Incorrect	24	68.57	1.31	Poor	14	40.00	1.60	Fair
	Correct	11	31.43			21	60.00		
Q41	Incorrect	13	37.14	1.63	Fair	9	25.71	1.74	Good
	Correct	22	62.86			26	74.29		

Knowledge Abbreviation: M.S. ≤ 1.33, means "poor", M.S. (1.34-1.67) means "Fair" and M.S. ≥ 1.68 means "Good".

Table 4.2 Knowledge items Continued		Study Pre				Control Pre			
		Freq.	%	MS	Assess.	Freq.	%	MS	Assess.
Q42	No	1	2.86	1.57	Fair	9	25.71	1.20	Poor
	Uncertain	13	37.14			10	28.57		
	Yes	21	60.00			16	45.71		
Q43	No	3	8.57	1.60	Fair	3	8.57	1.60	Fair
	Uncertain	8	22.86			8	22.86		
	Yes	24	68.57			24	68.57		
Q44	No	8	22.86	1.29	Poor	14	40.00	1.09	Poor
	Uncertain	9	25.71			4	11.43		
	Yes	18	51.43			17	48.57		
Q45	No	10	28.57	1.23	Poor	9	25.71	1.29	Poor
	Uncertain	7	20.00			7	20.00		
	Yes	18	51.43			19	54.29		
Q46	No	7	20.00	1.40	Fair	9	25.71	1.23	Poor
	Uncertain	7	20.00			9	25.71		
	Yes	21	60.00			17	48.57		
Q47	No	5	14.29	1.54	Fair	10	28.57	1.23	Poor
	Uncertain	6	17.14			7	20.00		
	Yes	24	68.57			18	51.43		
Q48	No	6	17.14	1.40	Fair	6	17.14	1.46	Fair
	Uncertain	9	25.71			7	20.00		
	Yes	20	57.14			22	62.86		
Q49	No	6	17.14	1.60	Fair	2	5.71	1.77	Good
	Uncertain	2	5.71			4	11.43		
	Yes	27	77.14			29	82.86		
Q50	No	3	8.57	1.63	Fair	1	2.86	1.77	Good
	Uncertain	7	20.00			6	17.14		
	Yes	25	71.43			28	80.00		
Q51	No	2	5.71	1.80	Good	0	0.00	1.80	Good
	Uncertain	3	8.57			7	20.00		
	Yes	30	85.71			28	80.00		
Q52	No	3	8.57	1.51	Fair	4	11.43	1.51	Fair
	Uncertain	11	31.43			9	25.71		
	Yes	21	60.00			22	62.86		
Q53	No	1	2.86	1.77	Good	5	14.29	1.54	Fair
	Uncertain	6	17.14			6	17.14		
	Yes	28	80.00			24	68.57		
Q54	No	2	5.71	1.60	Fair	3	8.57	1.63	Fair
	Uncertain	10	28.57			7	20.00		
	Yes	23	65.71			25	71.43		
Q55	No	7	20.00	1.17	Poor	4	11.43	1.63	Fair
	Uncertain	15	42.86			5	14.29		
	Yes	13	37.14			26	74.29		

Knowledge Abbreviation: M.S. ≤ 1.33, means "poor", M.S. (1.34-1.67) means "Fair" and M.S. ≥ 1.68 means "Good".

Table 4.3: Distribution of the high school students regarding to their attitude toward substance abuse and drug addiction for (Pre-test).

Table 4.3 Attitude items		Study Pre				Control Pre			
		Freq.	%	MS	Assess.	Freq.	%	MS	Assess.
A1	Strongly disagree	6	17.14	3.29	Positive	4	11.43	3.57	Positive
	Disagree	2	5.71			1	2.86		
	Uncertain	8	22.86			7	20.00		
	Agree	14	40.00			17	48.57		
	Strongly agree	5	14.29			6	17.14		
A2	Strongly disagree	8	22.86	2.54	Negative	1	2.86	3.31	Positive
	Disagree	9	25.71			7	20.00		
	Uncertain	13	37.14			11	31.43		
	Agree	1	2.86			12	34.29		
	Strongly agree	4	11.43			4	11.43		
A3	Strongly disagree	6	17.14	3.31	Positive	6	17.14	3.26	Positive
	Disagree	2	5.71			3	8.57		
	Uncertain	8	22.86			8	22.86		
	Agree	13	37.14			12	34.29		
	Strongly agree	6	17.14			6	17.14		
A4	Strongly disagree	0	0.00	4.37	Positive	1	2.86	4.46	Positive
	Disagree	0	0.00			1	2.86		
	Uncertain	9	25.71			3	8.57		
	Agree	4	11.43			6	17.14		
	Strongly agree	22	62.86			24	68.57		
A5	Strongly disagree	11	31.43	2.51	Negative	8	22.86	2.77	Negative
	Disagree	4	11.43			7	20.00		
	Uncertain	14	40.00			7	20.00		
	Agree	3	8.57			11	31.43		
	Strongly agree	3	8.57			2	5.71		
A6	Strongly disagree	6	17.14	3.31	Positive	3	8.57	3.26	Positive
	Disagree	4	11.43			6	17.14		
	Uncertain	4	11.43			10	28.57		
	Agree	15	42.86			11	31.43		
	Strongly agree	6	17.14			5	14.29		
A7	Strongly disagree	2	5.71	4.03	Positive	0	0.00	4.40	Positive
	Disagree	5	14.29			3	8.57		
	Uncertain	2	5.71			3	8.57		
	Agree	7	20.00			6	17.14		
	Strongly agree	19	54.29			23	65.71		
A8	Strongly disagree	6	17.14	3.17	Positive	10	28.57	2.69	Negative
	Disagree	5	14.29			8	22.86		
	Uncertain	7	20.00			6	17.14		
	Agree	11	31.43			5	14.29		
	Strongly agree	6	17.14			6	17.14		
A9	Strongly disagree	5	14.29	3.74	Positive	2	5.71	3.80	Positive
	Disagree	0	0.00			2	5.71		
	Uncertain	4	11.43			8	22.86		
	Agree	16	45.71			12	34.29		
	Strongly agree	10	28.57			11	31.43		

Attitude Abbreviation: M.S. ≤ 3 means "Negative" and M.S. > 3 means "Positive".

Table 4.3 Attitude items Continued		Study Pre				Control Pre			
		Freq.	%	MS	Assess.	Freq.	%	MS	Assess.
A10	Strongly disagree	0	0.00	3.91	Positive	1	2.86	3.77	Positive
	Disagree	6	17.14			5	14.29		
	Uncertain	8	22.86			10	28.57		
	Agree	4	11.43			4	11.43		
	Strongly agree	17	48.57			15	42.86		
A11	Strongly disagree	3	8.57	3.60	Positive	0	0.00	4.09	Positive
	Disagree	5	14.29			2	5.71		
	Uncertain	6	17.14			7	20.00		
	Agree	10	28.57			12	34.29		
	Strongly agree	11	31.43			14	40.00		
A12	Strongly disagree	2	5.71	3.60	Positive	2	5.71	3.57	Positive
	Disagree	6	17.14			5	14.29		
	Uncertain	5	14.29			6	17.14		
	Agree	13	37.14			15	42.86		
	Strongly agree	9	25.71			7	20.00		
A13	Strongly disagree	1	2.86	3.86	Positive	2	5.71	4.11	Positive
	Disagree	2	5.71			0	0.00		
	Uncertain	9	25.71			8	22.86		
	Agree	12	34.29			7	20.00		
	Strongly agree	11	31.43			18	51.43		
A14	Strongly disagree	2	5.71	3.63	Positive	1	2.86	3.89	Positive
	Disagree	3	8.57			1	2.86		
	Uncertain	10	28.57			9	25.71		
	Agree	11	31.43			14	40.00		
	Strongly agree	9	25.71			10	28.57		
A15	Strongly disagree	1	2.86	3.43	Positive	1	2.86	3.49	Positive
	Disagree	8	22.86			6	17.14		
	Uncertain	9	25.71			11	31.43		
	Agree	9	25.71			9	25.71		
	Strongly agree	8	22.86			8	22.86		
A16	Strongly disagree	11	31.43	2.49	Negative	7	20.00	2.86	Negative
	Disagree	7	20.00			10	28.57		
	Uncertain	9	25.71			5	14.29		
	Agree	5	14.29			7	20.00		
	Strongly agree	3	8.57			6	17.14		
A17	Strongly disagree	3	8.57	3.03	Positive	2	5.71	2.94	Negative
	Disagree	10	28.57			11	31.43		
	Uncertain	11	31.43			14	40.00		
	Agree	5	14.29			3	8.57		
	Strongly agree	6	17.14			5	14.29		
A18	Strongly disagree	0	0.00	4.60	Positive	1	2.86	4.40	Positive
	Disagree	1	2.86			1	2.86		
	Uncertain	2	5.71			5	14.29		
	Agree	7	20.00			4	11.43		
	Strongly agree	25	71.43			24	68.57		

Attitude Abbreviation: M.S. ≤ 3 means "Negative" and M.S. > 3 means "Positive".

Table 4.3 Attitude items Continued		Study Pre				Control Pre			
		Freq.	%	MS	Assess.	Freq.	%	MS	Assess.
A19	Strongly disagree	9	25.71	3.00	Positive	6	17.14	3.06	Positive
	Disagree	7	20.00			6	17.14		
	Uncertain	2	5.71			9	25.71		
	Agree	9	25.71			8	22.86		
	Strongly agree	8	22.86			6	17.14		
A20	Strongly disagree	7	20.00	3.34	Positive	3	8.57	3.23	Positive
	Disagree	3	8.57			4	11.43		
	Uncertain	5	14.29			14	40.00		
	Agree	11	31.43			10	28.57		
	Strongly agree	9	25.71			4	11.43		
A21	Strongly disagree	2	5.71	4.06	Positive	0	0.00	4.17	Positive
	Disagree	3	8.57			2	5.71		
	Uncertain	4	11.43			7	20.00		
	Agree	8	22.86			9	25.71		
	Strongly agree	18	51.43			17	48.57		
A22	Strongly disagree	4	11.43	3.37	Positive	1	2.86	3.69	Positive
	Disagree	5	14.29			6	17.14		
	Uncertain	8	22.86			8	22.86		
	Agree	10	28.57			8	22.86		
	Strongly agree	8	22.86			12	34.29		
A23	Strongly disagree	1	2.86	3.29	Positive	2	5.71	3.89	Positive
	Disagree	10	28.57			3	8.57		
	Uncertain	8	22.86			6	17.14		
	Agree	10	28.57			10	28.57		
	Strongly agree	6	17.14			14	40.00		
A24	Strongly disagree	4	11.43	3.00	Positive	6	17.14	3.11	Positive
	Disagree	10	28.57			4	11.43		
	Uncertain	9	25.71			11	31.43		
	Agree	6	17.14			8	22.86		
	Strongly agree	6	17.14			6	17.14		
A25	Strongly disagree	8	22.86	3.23	Positive	5	14.29	3.63	Positive
	Disagree	2	5.71			2	5.71		
	Uncertain	8	22.86			6	17.14		
	Agree	8	22.86			10	28.57		
	Strongly agree	9	25.71			12	34.29		
A26	Strongly disagree	6	17.14	3.60	Positive	2	5.71	3.74	Positive
	Disagree	3	8.57			4	11.43		
	Uncertain	3	8.57			5	14.29		
	Agree	10	28.57			14	40.00		
	Strongly agree	13	37.14			10	28.57		

Knowledge Abbreviation: M.S. ≤ 1.33, means "poor", M.S. (1.34-1.67) means "Fair" and M.S. ≥ 1.68 means "Good". Attitude Abbreviation: M.S. ≤ 3 means "Negative" and M.S. > 3 means "Positive".

Table 4.4: Distribution of the high-school students' (study & control) groups in (Pre-test) according to their Knowledge domains, total knowledge and total attitudes toward substance abuse and drug addiction.

Knowledge domains, total knowledge And total attitude		Study Pre				Control Pre			
		Freq.	%	M.S	Assess.	Freq.	%	M.S	Assess.
Concepts of Addiction & Substance Abuse	Poor	13	37.14	1.39	Fair	6	17.14	1.41	Fair
	Fair	10	28.57			24	68.57		
	Good	12	34.29			5	14.29		
General Information	Poor	10	28.57	1.48	Fair	6	17.14	1.49	Fair
	Fair	18	51.43			23	65.71		
	Good	7	20.00			6	17.14		
Physical effects	Poor	15	42.86	1.37	Fair	15	42.86	1.40	Fair
	Fair	17	48.57			16	45.71		
	Good	3	8.57			4	11.43		
Psychological effects	Poor	7	20.00	1.46	Fair	2	5.71	1.57	Fair
	Fair	19	54.29			18	51.43		
	Good	9	25.71			15	42.86		
Social & Economic Effects	Poor	8	22.86	1.62	Fair	2	5.71	1.83	Good
	Fair	5	14.29			2	5.71		
	Good	22	62.86			31	88.57		
Tobacco & Alcohol	Poor	9	25.71	1.46	Fair	3	8.57	1.57	Fair
	Fair	21	60.00			24	68.57		
	Good	5	14.29			8	22.86		
7th Domain: 1- Causes	Poor	14	40.00	1.43	Fair	19	54.29	1.30	Poor
	Fair	9	25.71			5	14.29		
	Good	12	34.29			11	31.43		
7th Domain: 2- Prevention	Poor	7	20.00	1.66	Fair	7	20.00	1.68	Good
	Fair	8	22.86			9	25.71		
	Good	20	57.14			19	54.29		
7th Domain: 3- Treatment	Poor	13	37.14	1.39	Fair	8	22.86	1.63	Fair
	Fair	10	28.57			3	8.57		
	Good	12	34.29			24	68.57		
7th Domain Total	Poor	11	31.43	1.49	Fair	7	20.00	1.54	Fair
	Fair	13	37.14			11	31.43		
	Good	11	31.43			17	48.57		
Total Knowledge	Poor	11	31.43	1.47	Fair	3	8.57	1.54	Fair
	Fair	19	54.29			25	71.43		
	Good	5	14.29			7	20.00		
Total Attitudes	Negative	8	22.86	3.44	Positive	2	5.71	3.58	Positive
	Positive	27	77.14			33	94.29		

Knowledge Abbreviation: M.S. ≤ 1.33, means "poor", M.S. (1.34-1.67) means "Fair" and M.S. ≥ 1.68 means "Good". Attitude Abbreviation: M.S. ≤ 3 means "Negative" and M.S. > 3 means "Positive".

The (table 4.2), (Table 4.3) and (Table 4.4) shows knowledge responses of both control and study group of high school students in (Pre-test) regarding knowledge and attitudes items and the seven domains of knowledge, overall knowledge and attitudes toward drug addiction, where the knowledge measured in light of three categories (poor, fair and good), and the attitude in two categories (positive and negative). In detail, the responses of study and control group to the first domain which includes concepts of drug addiction and substance abuse was fair with percentage of (28.5%, 68.5%) and mean score (1.39, 1.41), respectively.

Also, respectively the second, third and fourth domains (general information on drug addiction, physical and psychological effects of substance abuse) had fair assessment for both study group (51%, 48.5%, 54%) and control group (65.7%, 45%, 51%).

The domain of social and economic Effects of addiction on drugs (5^{th} domain) revealed different assessment by control and study group in which the study group had fair knowledge (14%) with mean score of (1.62) and the control group showed good assessment concerning this domain (88.5%) with mean of score (1.83).

The control group expressed fair assessment (68.57%) toward tobacco and alcohol abuse (M.S. 1.57), in addition the study group mean of score was 1.46 with fair assessment (60%).

The overall knowledge of study and control group of high school students exposed fair assessment with means of scores (1.47, 1.54) correspondingly for study group (54%) and control group (71%). But, the attitude responses of students in Pre-test toward drug addiction were positive with mean of score (3.44) for study group (77%) and (3.58) for control group (94%).

Table 4.5: High school students' responses (control and study) in (Post I) concerning questions about their Knowledge toward substance abuse and drug addiction.

Table 4.5 Knowledge items		Study Post I				Control Post I			
		Freq.	%	MS	Assess.	Freq.	%	MS	Assess.
Q1	Incorrect	5	14.29	1.86	Good	19	54.29	1.46	Fair
	Correct	30	85.71			16	45.71		
Q2	Incorrect	7	20.00	1.80	Good	23	65.71	1.34	Fair
	Correct	28	80.00			12	34.29		
Q3	Incorrect	3	8.57	1.91	Good	15	42.86	1.57	Fair
	Correct	32	91.43			20	57.14		
Q4	Incorrect	1	2.86	1.97	Good	7	20.00	1.80	Good
	Correct	34	97.14			28	80.00		
Q5	Incorrect	8	22.86	1.77	Good	25	71.43	1.29	Good
	Correct	27	77.14			10	28.57		
Q6	Incorrect	4	11.43	1.89	Good	14	40.00	1.60	Fair
	Correct	31	88.57			21	60.00		
Q7	Incorrect	7	20.00	1.80	Good	23	65.71	1.34	Fair
	Correct	28	80.00			12	34.29		
Q8	Incorrect	8	22.86	1.77	Good	12	34.29	1.66	Fair
	Correct	27	77.14			23	65.71		
Q9	Incorrect	0	0.00	2.00	Good	2	5.71	1.94	Good
	Correct	35	100.00			33	94.29		
Q10	Incorrect	12	34.29	1.66	Fair	10	28.57	1.71	Good
	Correct	23	65.71			25	71.43		
Q11	Incorrect	6	17.14	1.83	Good	14	40.00	1.60	Fair
	Correct	29	82.86			21	60.00		
Q12	Incorrect	6	17.14	1.83	Good	25	71.43	1.29	Good
	Correct	29	82.86			10	28.57		
Q13	Incorrect	12	34.29	1.66	Fair	8	22.86	1.77	Good
	Correct	23	65.71			27	77.14		
Q14	Incorrect	11	31.43	1.69	Good	16	45.71	1.54	Fair
	Correct	24	68.57			19	54.29		
Q15	Incorrect	13	37.14	1.63	Fair	17	48.57	1.51	Fair
	Correct	22	62.86			18	51.43		
Q16	Incorrect	10	28.57	1.71	Good	14	40.00	1.60	Fair
	Correct	25	71.43			21	60.00		
Q17	Incorrect	10	28.57	1.71	Good	19	54.29	1.46	Fair
	Correct	25	71.43			16	45.71		
Q18	Incorrect	15	42.86	1.57	Fair	25	71.43	1.29	Good
	Correct	20	57.14			10	28.57		
Q19	Incorrect	12	34.29	1.66	Fair	17	48.57	1.51	Fair
	Correct	23	65.71			18	51.43		
Q20	Incorrect	13	37.14	1.63	Fair	11	31.43	1.69	Good
	Correct	22	62.86			24	68.57		
Q21	Incorrect	11	31.43	1.69	Good	18	51.43	1.49	Fair
	Correct	24	68.57			17	48.57		

Knowledge Abbreviation: M.S. ≤ 1.33, means "poor", M.S. (1.34-1.67) means "Fair" and M.S. ≥ 1.68 means "Good".

Table 4.5 Knowledge items Continued		Study Post I				Control Post I			
		Freq.	%	MS	Assess.	Freq.	%	MS	Assess.
Q22	Incorrect	13	37.14	1.63	Fair	24	68.57	1.31	Poor
	Correct	22	62.86			11	31.43		
Q23	Incorrect	8	22.86	1.77	Good	11	31.43	1.69	Good
	Correct	27	77.14			24	68.57		
Q24	Incorrect	7	20.00	1.80	Good	25	71.43	1.29	Poor
	Correct	28	80.00			10	28.57		
Q25	Incorrect	1	2.86	1.97	Good	5	14.29	1.86	Good
	Correct	34	97.14			30	85.71		
Q26	Incorrect	5	14.29	1.86	Good	25	71.43	1.29	Poor
	Correct	30	85.71			10	28.57		
Q27	Incorrect	6	17.14	1.57	Fair	14	40.00	1.29	Poor
	Correct	29	82.86			21	60.00		
Q28	Incorrect	3	8.57	1.91	Good	10	28.57	1.71	Good
	Correct	32	91.43			25	71.43		
Q29	Incorrect	3	8.57	1.66	Fair	3	8.57	1.51	Fair
	Correct	32	91.43			32	91.43		
Q30	Incorrect	10	28.57	1.71	Good	10	28.57	1.71	Good
	Correct	25	71.43			25	71.43		
Q31	Incorrect	6	17.14	1.83	Good	5	14.29	1.86	Good
	Correct	29	82.86			30	85.71		
Q32	Incorrect	8	22.86	1.77	Good	16	45.71	1.54	Fair
	Correct	27	77.14			19	54.29		
Q33	Incorrect	7	20.00	1.80	Good	26	74.28	1.27	Poor
	Correct	28	80.00			9	25.72		
Q34	Incorrect	8	22.86	1.77	Good	17	48.57	1.51	Fair
	Correct	27	77.14			18	51.43		
Q35	Incorrect	4	11.43	1.89	Good	14	40.00	1.60	Fair
	Correct	31	88.57			21	60.00		
Q36	Incorrect	9	25.71	1.74	Good	9	25.71	1.74	Good
	Correct	26	74.29			26	74.29		
Q37	Incorrect	9	25.71	1.74	Good	14	40.00	1.60	Fair
	Correct	26	74.29			21	60.00		
Q38	Incorrect	4	11.43	1.89	Good	10	28.57	1.71	Good
	Correct	31	88.57			25	71.43		
Q39	Incorrect	3	8.57	1.91	Good	5	14.29	1.86	Good
	Correct	32	91.43			30	85.71		
Q40	Incorrect	9	25.71	1.74	Good	11	31.43	1.69	Good
	Correct	26	74.29			24	68.57		
Q41	Incorrect	3	8.57	1.91	Good	10	28.57	1.71	Good
	Correct	32	91.43			25	71.43		

Knowledge Abbreviation: M.S. ≤ 1.33, means "poor", M.S. (1.34-1.67) means "Fair" and M.S. ≥ 1.68 means "Good".

Table 4.5 Knowledge items Continued		Study Post I				Control Post I			
		Freq.	%	MS	Assess.	Freq.	%	MS	Assess.
Q42	No	0	0.00	1.91	Good	9	25.71	1.20	Poor
	Uncertain	3	8.57			10	28.57		
	Yes	32	91.43			16	45.71		
Q43	No	0	0.00	1.94	Good	3	8.57	1.60	Fair
	Uncertain	2	5.71			8	22.86		
	Yes	33	94.29			24	68.57		
Q44	No	1	2.86	1.86	Good	14	40.00	1.09	Poor
	Uncertain	3	8.57			4	11.43		
	Yes	31	88.57			17	48.57		
Q45	No	0	0.00	1.86	Good	9	25.71	1.29	Poor
	Uncertain	5	14.29			7	20.00		
	Yes	30	85.71			19	54.29		
Q46	No	1	2.86	1.83	Good	9	25.71	1.23	Poor
	Uncertain	4	11.43			9	25.71		
	Yes	30	85.71			17	48.57		
Q47	No	1	2.86	1.89	Good	10	28.57	1.23	Poor
	Uncertain	2	5.71			7	20.00		
	Yes	32	91.43			18	51.43		
Q48	No	0	0.00	1.86	Good	6	17.14	1.46	Fair
	Uncertain	5	14.29			7	20.00		
	Yes	30	85.71			22	62.86		
Q49	No	0	0.00	1.97	Good	2	5.71	1.77	Good
	Uncertain	1	2.86			4	11.43		
	Yes	34	97.14			29	82.86		
Q50	No	1	2.86	1.83	Good	1	2.86	1.77	Good
	Uncertain	4	11.43			6	17.14		
	Yes	30	85.71			28	80.00		
Q51	No	0	0.00	1.97	Good	0	0.00	1.80	Good
	Uncertain	1	2.86			7	20.00		
	Yes	34	97.14			28	80.00		
Q52	No	0	0.00	1.94	Good	4	11.43	1.51	Fair
	Uncertain	2	5.71			9	25.71		
	Yes	33	94.29			22	62.86		
Q53	No	0	0.00	1.97	Good	5	14.29	1.54	Fair
	Uncertain	1	2.86			6	17.14		
	Yes	34	97.14			24	68.57		
Q54	No	0	0.00	1.86	Good	3	8.57	1.63	Fair
	Uncertain	5	14.29			7	20.00		
	Yes	30	85.71			25	71.43		
Q55	No	1	2.86	1.83	Good	4	11.43	1.63	Fair
	Uncertain	4	11.43			5	14.29		
	Yes	30	85.71			26	74.29		

Knowledge Abbreviation: M.S. ≤ 1.33, means "poor", M.S. (1.34-1.67) means "Fair" and M.S. ≥ 1.68 means "Good".

Table 4.6: High school students' responses (control and study) in (Post I) concerning questions about their attitude toward substance abuse and drug addiction.

Table 4.6 Attitude items		Study Post I				Control Post I			
		Freq.	%	MS	Assess.	Freq.	%	MS	Assess.
A1	Strongly disagree	0	0.00	4.74	Positive	3	8.57	3.66	Positive
	Disagree	0	0.00			1	2.86		
	Uncertain	0	0.00			7	20.00		
	Agree	9	25.71			18	51.43		
	Strongly agree	26	74.29			6	17.14		
A2	Strongly disagree	0	0.00	4.11	Positive	1	2.86	3.31	Positive
	Disagree	3	8.57			7	20.00		
	Uncertain	3	8.57			11	31.43		
	Agree	16	45.71			12	34.29		
	Strongly agree	13	37.14			4	11.43		
A3	Strongly disagree	0	0.00	4.29	Positive	5	14.29	3.37	Positive
	Disagree	2	5.71			3	8.57		
	Uncertain	2	5.71			8	22.86		
	Agree	15	42.86			12	34.29		
	Strongly agree	16	45.71			7	20.00		
A4	Strongly disagree	0	0.00	4.86	Positive	1	2.86	4.46	Positive
	Disagree	0	0.00			1	2.86		
	Uncertain	1	2.86			3	8.57		
	Agree	3	8.57			6	17.14		
	Strongly agree	31	88.57			24	68.57		
A5	Strongly disagree	0	0.00	4.34	Positive	6	17.14	2.97	Negative
	Disagree	0	0.00			7	20.00		
	Uncertain	6	17.14			7	20.00		
	Agree	11	31.43			12	34.29		
	Strongly agree	18	51.43			3	8.57		
A6	Strongly disagree	0	0.00	4.54	Positive	3	8.57	3.26	Positive
	Disagree	0	0.00			6	17.14		
	Uncertain	4	11.43			10	28.57		
	Agree	8	22.86			11	31.43		
	Strongly agree	23	65.71			5	14.29		
A7	Strongly disagree	0	0.00	4.77	Positive	0	0.00	4.40	Positive
	Disagree	0	0.00			3	8.57		
	Uncertain	2	5.71			3	8.57		
	Agree	4	11.43			6	17.14		
	Strongly agree	29	82.86			23	65.71		
A8	Strongly disagree	0	0.00	4.49	Positive	10	28.57	2.69	Negative
	Disagree	0	0.00			8	22.86		
	Uncertain	4	11.43			6	17.14		
	Agree	10	28.57			5	14.29		
	Strongly agree	21	60.00			6	17.14		
A9	Strongly disagree	0	0.00	4.60	Positive	2	5.71	3.80	Positive
	Disagree	0	0.00			2	5.71		
	Uncertain	3	8.57			8	22.86		
	Agree	8	22.86			12	34.29		
	Strongly agree	24	68.57			11	31.43		

Attitude Abbreviation: M.S. ≤ 3 means "Negative" and M.S. > 3 means "Positive".

Table 4.6 Attitude items Continued		Study Post I				Control Post I			
		Freq.	%	MS	Assess.	Freq.	%	MS	Assess.
A10	Strongly disagree	0	0.00	4.69	Positive	1	2.86	3.71	Positive
	Disagree	0	0.00			5	14.29		
	Uncertain	2	5.71			11	31.43		
	Agree	7	20.00			4	11.43		
	Strongly agree	26	74.29			14	40.00		
A11	Strongly disagree	0	0.00	4.57	Positive	0	0.00	4.09	Positive
	Disagree	0	0.00			2	5.71		
	Uncertain	2	5.71			7	20.00		
	Agree	11	31.43			12	34.29		
	Strongly agree	22	62.86			14	40.00		
A12	Strongly disagree	0	0.00	4.71	Positive	2	5.71	3.57	Positive
	Disagree	0	0.00			4	11.43		
	Uncertain	2	5.71			7	20.00		
	Agree	6	17.14			16	45.71		
	Strongly agree	27	77.14			6	17.14		
A13	Strongly disagree	0	0.00	4.89	Positive	2	5.71	4.11	Positive
	Disagree	0	0.00			0	0.00		
	Uncertain	0	0.00			8	22.86		
	Agree	4	11.43			7	20.00		
	Strongly agree	31	88.57			18	51.43		
A14	Strongly disagree	0	0.00	4.69	Positive	1	2.86	3.89	Positive
	Disagree	0	0.00			1	2.86		
	Uncertain	1	2.86			9	25.71		
	Agree	9	25.71			14	40.00		
	Strongly agree	25	71.43			10	28.57		
A15	Strongly disagree	0	0.00	4.49	Positive	1	2.86	3.46	Positive
	Disagree	1	2.86			6	17.14		
	Uncertain	3	8.57			12	34.29		
	Agree	9	25.71			8	22.86		
	Strongly agree	22	62.86			8	22.86		
A16	Strongly disagree	0	0.00	4.34	Positive	7	20.00	2.86	Negative
	Disagree	0	0.00			10	28.57		
	Uncertain	5	14.29			5	14.29		
	Agree	13	37.14			7	20.00		
	Strongly agree	17	48.57			6	17.14		
A17	Strongly disagree	1	2.86	4.31	Positive	4	11.43	2.77	Negative
	Disagree	0	0.00			11	31.43		
	Uncertain	3	8.57			13	37.14		
	Agree	14	40.00			3	8.57		
	Strongly agree	17	48.57			4	11.43		
A18	Strongly disagree	0	0.00	4.89	Positive	0	0.00	4.49	Positive
	Disagree	0	0.00			1	2.86		
	Uncertain	0	0.00			5	14.29		
	Agree	4	11.43			5	14.29		
	Strongly agree	31	88.57			24	68.57		

Attitude Abbreviation: M.S. ≤ 3 means "Negative" and M.S. > 3 means "Positive"

Table 4.6 Attitude items Continued		Study Post I				Control Post I			
		Freq.	%	MS	Assess.	Freq.	%	MS	Assess.
A19	Strongly disagree	0	0.00	4.43	Positive	5	14.29	3.23	Positive
	Disagree	0	0.00			6	17.14		
	Uncertain	5	14.29			8	22.86		
	Agree	10	28.57			8	22.86		
	Strongly agree	20	57.14			8	22.86		
A20	Strongly disagree	0	0.00	4.46	Positive	1	2.86	3.49	Positive
	Disagree	1	2.86			4	11.43		
	Uncertain	3	8.57			13	37.14		
	Agree	10	28.57			11	31.43		
	Strongly agree	21	60.00			6	17.14		
A21	Strongly disagree	0	0.00	4.74	Positive	0	0.00	4.11	Positive
	Disagree	0	0.00			3	8.57		
	Uncertain	2	5.71			7	20.00		
	Agree	5	14.29			8	22.86		
	Strongly agree	28	80.00			17	48.57		
A22	Strongly disagree	0	0.00	4.43	Positive	1	2.86	3.69	Positive
	Disagree	1	2.86			6	17.14		
	Uncertain	3	8.57			8	22.86		
	Agree	11	31.43			8	22.86		
	Strongly agree	20	57.14			12	34.29		
A23	Strongly disagree	0	0.00	4.57	Positive	2	5.71	3.89	Positive
	Disagree	0	0.00			3	8.57		
	Uncertain	3	8.57			6	17.14		
	Agree	9	25.71			10	28.57		
	Strongly agree	23	65.71			14	40.00		
A24	Strongly disagree	0	0.00	4.57	Positive	5	14.29	3.20	Positive
	Disagree	0	0.00			4	11.43		
	Uncertain	3	8.57			11	31.43		
	Agree	9	25.71			9	25.71		
	Strongly agree	23	65.71			6	17.14		
A25	Strongly disagree	1	2.86	4.51	Positive	2	5.71	4.03	Positive
	Disagree	0	0.00			2	5.71		
	Uncertain	2	5.71			5	14.29		
	Agree	9	25.71			10	28.57		
	Strongly agree	23	65.71			16	45.71		
A26	Strongly disagree	0	0.00	4.74	Positive	1	2.86	4.00	Positive
	Disagree	1	2.86			3	8.57		
	Uncertain	2	5.71			4	11.43		
	Agree	2	5.71			14	40.00		
	Strongly agree	30	85.71			13	37.14		

Attitude Abbreviation: M.S. ≤ 3 means "Negative" and M.S. > 3 means "Positive"

Table 4.7: Distribution of the control and study groups sample regarding to their Knowledge domains, total knowledge and total attitudes in (Post I).

Knowledge domains, total knowledge And total attitude		Study Post I				Control Post I			
		Freq.	%	M.S	Assess.	Freq.	%	M.S	Assess.
Concepts of Addiction & Substance Abuse	Poor	0	.00	1.87	Good	4	11.43	1.51	Fair
	Fair	2	5.71			21	60.00		
	Good	33	94.29			10	28.57		
General Information	Poor	1	2.86	1.75	Good	4	11.43	1.58	Fair
	Fair	13	37.14			18	51.43		
	Good	21	60.00			13	37.14		
Physical effects	Poor	8	22.86	1.63	Fair	12	34.29	1.46	Fair
	Fair	8	22.86			17	48.57		
	Good	19	54.29			6	17.14		
Psychological effects	Poor	0	.00	1.86	Good	2	5.71	1.57	Fair
	Fair	3	8.57			18	51.43		
	Good	32	91.43			15	42.86		
Social & Economic Effects	Poor	1	2.86	1.82	Good	2	5.71	1.83	Good
	Fair	4	11.43			2	5.71		
	Good	30	85.71			31	88.57		
Tobacco & Alcohol	Poor	0	.00	1.82	Good	2	5.71	1.62	Fair
	Fair	5	14.29			19	54.29		
	Good	30	85.71			14	40.00		
7th Domain: 1- Causes	Poor	0	.00	1.88	Good	19	54.29	1.30	Poor
	Fair	4	11.43			5	14.29		
	Good	31	88.57			11	31.43		
7th Domain: 2- Prevention	Poor	0	.00	1.94	Good	7	20.00	1.68	Good
	Fair	2	5.71			9	25.71		
	Good	33	94.29			19	54.29		
7th Domain: 3- Treatment	Poor	5	14.29	1.84	Good	8	22.86	1.63	Fair
	Fair	0	.00			3	8.57		
	Good	30	85.71			24	68.57		
7th Domain Total	Poor	0	.00	1.89	Good	7	20.00	1.54	Fair
	Fair	4	11.43			11	31.43		
	Good	31	88.57			17	48.57		
Total Knowledge	Poor	0	.00	1.80	Good	2	5.71	1.59	Fair
	Fair	7	20.00			20	57.14		
	Good	28	80.00			13	37.14		
Total Attitudes	Negative	0	.00	4.57	Positive	2	5.71	3.63	Positive
	Positive	35	100.00			33	94.29		

Knowledge Abbreviation: M.S. ≤ 1.33, means "poor", M.S. (1.34-1.67) means "Fair" and M.S. ≥ 1.68 means "Good". Attitude Abbreviation: M.S. ≤ 3 means "Negative" and M.S. > 3 means "Positive".

The (Table 4.5), (Table 4.6) and (table 4.7) shows knowledge responses of both control and study group of high school students in (Post-I) regarding the questions and the seven domains of knowledge, overall knowledge and attitudes toward drug addiction, where the knowledge measured in light of three categories (poor, fair and good), and the attitude in two categories (positive and negative). In detail, the responses of study and control group to the first domain which includes concepts of drug

addiction and substance abuse was good for study group (94%) and fair for the control group (60%) with mean score (1.87, 1.51), respectively.

Also, the second domain which is general information on drug addiction, had good assessment 60% for study group (M.S. 1.75) and fair (51%) for control (M.S. 1.58). whereas, concerning physical effects of drug abuse both study and control groups had fair assessment. But, the domain regarding socioeconomic effects of substance addiction, the assessment of knowledge was good for all groups (85.7% for study group and 88.5% for control group). The knowledge of students for fourth domain or psychological effects of substance abuse was (91%) good for study group with mean (1.86) and (51%) fair for control group (M.S. 1.57).

The control group expressed fair assessment (54%) toward tobacco and alcohol abuse (M.S. 1.62), in addition the study group mean of score was 1.82 with good assessment (85.71%).

Moreover, the total knowledge for causes, prevention, as well as treatment of drug addiction among high-school students included in study was (80%) good for study with mean of score (1.89) and fair for control group (57.14%) with mean of score (1.54).

The overall knowledge of study and control group of high school students exposed good assessment with means of scores (1.80) for students in study group and fair knowledge (1.59) among control group.

Correspondingly the attitude responses of students, for study and control group, in the first Post-test toward drug addiction were positive with mean of score (4.57) for study group and (3.63) for control group.

Table 4.8: responses of the study and control groups in (Posttest II) to Knowledge questions regarding substance abuse and drug addiction.

Table. 4.8 Knowledge items		Study Post II				Control Post II			
		Freq.	%	MS	Assess.	Freq.	%	MS	Assess.
Q1	Incorrect	8	22.86	1.77	Good	27	77.14	1.23	Poor
	Correct	27	77.14			8	22.86		
Q2	Incorrect	2	5.71	1.94	Good	25	71.43	1.29	Poor
	Correct	33	94.29			10	28.57		
Q3	Incorrect	5	14.29	1.86	Good	21	60.00	1.40	Fair
	Correct	30	85.71			14	40.00		
Q4	Incorrect	1	2.86	1.97	Good	8	22.86	1.77	Good
	Correct	34	97.14			27	77.14		
Q5	Incorrect	6	17.14	1.83	Good	28	80.00	1.20	Poor
	Correct	29	82.86			7	20.00		
Q6	Incorrect	8	22.86	1.77	Good	22	62.86	1.37	Fair
	Correct	27	77.14			13	37.14		
Q7	Incorrect	7	20.00	1.80	Good	29	82.86	1.17	Poor
	Correct	28	80.00			6	17.14		
Q8	Incorrect	2	5.71	1.94	Good	9	25.71	1.74	Good
	Correct	33	94.29			26	74.29		
Q9	Incorrect	1	2.86	1.97	Good	6	17.14	1.83	Good
	Correct	34	97.14			29	82.86		
Q10	Incorrect	9	25.71	1.74	Good	12	34.29	1.66	Fair
	Correct	26	74.29			23	65.71		
Q11	Incorrect	5	14.29	1.86	Good	14	40.00	1.60	Fair
	Correct	30	85.71			21	60.00		
Q12	Incorrect	4	11.43	1.89	Good	24	68.57	1.31	Poor
	Correct	31	88.57			11	31.43		
Q13	Incorrect	5	14.29	1.86	Good	20	57.14	1.43	Fair
	Correct	30	85.71			15	42.86		
Q14	Incorrect	9	25.71	1.74	Good	26	74.29	1.26	Poor
	Correct	26	74.29			9	25.71		
Q15	Incorrect	7	20.00	1.80	Good	26	74.28	1.27	Poor
	Correct	28	80.00			9	25.72		
Q16	Incorrect	6	17.14	1.83	Good	21	60.00	1.40	Fair
	Correct	29	82.86			14	40.00		
Q17	Incorrect	5	14.29	1.86	Good	18	51.43	1.49	Fair
	Correct	30	85.71			17	48.57		
Q18	Incorrect	9	25.71	1.74	Good	28	80.00	1.20	Poor
	Correct	26	74.29			7	20.00		
Q19	Incorrect	7	20.00	1.80	Good	20	57.14	1.43	Fair
	Correct	28	80.00			15	42.86		
Q20	Incorrect	8	22.86	1.77	Good	13	37.14	1.63	Fair
	Correct	27	77.14			22	62.86		
Q21	Incorrect	9	25.71	1.74	Good	26	74.28	1.27	Poor
	Correct	26	74.29			9	25.72		

Knowledge Abbreviation: M.S. ≤ 1.33, means "poor", M.S. (1.34-1.67) means "Fair" and M.S. ≥ 1.68 means "Good".

Table 4.8 Knowledge items Continued		Study Post II				Control Post II			
		Freq.	%	MS	Assess.	Freq.	%	MS	Assess.
Q22	Incorrect	8	22.86	1.77	Good	32	91.43	1.09	Poor
	Correct	27	77.14			3	8.57		
Q23	Incorrect	10	28.57	1.71	Good	15	42.86	1.57	Fair
	Correct	25	71.43			20	57.14		
Q24	Incorrect	7	20.00	1.80	Good	27	77.14	1.23	Poor
	Correct	28	80.00			8	22.86		
Q25	Incorrect	0	0.00	2.00	Good	6	17.14	1.83	Good
	Correct	35	100.00			29	82.86		
Q26	Incorrect	3	8.57	1.91	Good	28	80.00	1.20	Poor
	Correct	32	91.43			7	20.00		
Q27	Incorrect	2	5.71	1.74	Good	17	48.57	1.20	Poor
	Correct	33	94.29			18	51.43		
Q28	Incorrect	4	11.43	1.89	Good	19	54.29	1.46	Fair
	Correct	31	88.57			16	45.71		
Q29	Incorrect	0	0.00	1.80	Good	4	11.43	1.43	Fair
	Correct	35	100.00			31	88.57		
Q30	Incorrect	6	17.14	1.83	Good	13	37.14	1.63	Fair
	Correct	29	82.86			22	62.86		
Q31	Incorrect	4	11.43	1.89	Good	4	11.43	1.89	Good
	Correct	31	88.57			31	88.57		
Q32	Incorrect	9	25.71	1.74	Good	28	80.00	1.20	Poor
	Correct	26	74.29			7	20.00		
Q33	Incorrect	4	11.43	1.89	Good	25	71.43	1.29	Poor
	Correct	31	88.57			10	28.57		
Q34	Incorrect	5	14.29	1.86	Good	19	54.29	1.46	Fair
	Correct	30	85.71			16	45.71		
Q35	Incorrect	1	2.86	1.97	Good	22	62.86	1.37	Fair
	Correct	34	97.14			13	37.14		
Q36	Incorrect	5	14.29	1.86	Good	13	37.14	1.63	Fair
	Correct	30	85.71			22	62.86		
Q37	Incorrect	7	20.00	1.80	Good	22	62.86	1.37	Fair
	Correct	28	80.00			13	37.14		
Q38	Incorrect	5	14.29	1.86	Good	7	20.00	1.80	Good
	Correct	30	85.71			28	80.00		
Q39	Incorrect	3	8.57	1.91	Good	4	11.43	1.89	Good
	Correct	32	91.43			31	88.57		
Q40	Incorrect	10	28.57	1.71	Good	15	42.86	1.57	Fair
	Correct	25	71.43			20	57.14		
Q41	Incorrect	2	5.71	1.94	Good	8	22.86	1.77	Good
	Correct	33	94.29			27	77.14		

Knowledge Abbreviation: M.S. ≤ 1.33, means "poor", M.S. (1.34-1.67) means "Fair" and M.S. ≥ 1.68 means "Good".

Table 4.8 Knowledge items Continued		Study Post II				Control Post II			
		Freq.	%	MS	Assess.	Freq.	%	MS	Assess.
Q42	No	1	2.86	1.91	Good	8	22.86	1.17	Poor
	Uncertain	1	2.86			13	37.14		
	Yes	33	94.29			14	40.00		
Q43	No	0	0.00	1.94	Good	3	8.57	1.63	Fair
	Uncertain	2	5.71			7	20.00		
	Yes	33	94.29			25	71.43		
Q44	No	0	0.00	1.94	Good	15	42.86	1.06	Poor
	Uncertain	2	5.71			3	8.57		
	Yes	33	94.29			17	48.57		
Q45	No	1	2.86	1.91	Good	9	25.71	1.26	Poor
	Uncertain	1	2.86			8	22.86		
	Yes	33	94.29			18	51.43		
Q46	No	0	0.00	1.91	Good	9	25.71	1.26	Poor
	Uncertain	3	8.57			8	22.86		
	Yes	32	91.43			18	51.43		
Q47	No	0	0.00	1.97	Good	8	22.86	1.29	Poor
	Uncertain	1	2.86			9	25.71		
	Yes	34	97.14			18	51.43		
Q48	No	1	2.86	1.89	Good	7	20.00	1.43	Fair
	Uncertain	2	5.71			6	17.14		
	Yes	32	91.43			22	62.86		
Q49	No	1	2.86	1.91	Good	2	5.71	1.80	Good
	Uncertain	1	2.86			3	8.57		
	Yes	33	94.29			30	85.71		
Q50	No	0	0.00	1.91	Good	1	2.86	1.80	Good
	Uncertain	3	8.57			5	14.29		
	Yes	32	91.43			29	82.86		
Q51	No	1	2.86	1.89	Good	2	5.71	1.69	Good
	Uncertain	2	5.71			7	20.00		
	Yes	32	91.43			26	74.29		
Q52	No	1	2.86	1.91	Good	3	8.57	1.51	Fair
	Uncertain	1	2.86			11	31.43		
	Yes	33	94.29			21	60.00		
Q53	No	1	2.86	1.89	Good	2	5.71	1.69	Good
	Uncertain	2	5.71			7	20.00		
	Yes	32	91.43			26	74.29		
Q54	No	0	0.00	1.91	Good	2	5.71	1.63	Fair
	Uncertain	3	8.57			9	25.71		
	Yes	32	91.43			24	68.57		
Q55	No	0	0.00	1.94	Good	3	8.57	1.63	Fair
	Uncertain	2	5.71			7	20.00		
	Yes	33	94.29			25	71.43		

Knowledge Abbreviation: M.S. ≤ 1.33, means "poor", M.S. (1.34-1.67) means "Fair" and M.S. ≥ 1.68 means "Good".

Table 4.9: responses of the study and control groups in (Posttest II) to attitude questions regarding substance abuse and drug addiction.

Table 4.9 Attitude items		Study Post II				Control Post II			
		Freq.	%	MS	Assess.	Freq.	%	MS	Assess.
A1	Strongly disagree	0	0.00	4.89	Positive	3	8.57	3.71	Positive
	Disagree	0	0.00			1	2.86		
	Uncertain	0	0.00			7	20.00		
	Agree	4	11.43			16	45.71		
	Strongly agree	31	88.57			8	22.86		
A2	Strongly disagree	0	0.00	4.49	Positive	0	0.00	3.43	Positive
	Disagree	0	0.00			7	20.00		
	Uncertain	3	8.57			12	34.29		
	Agree	12	34.29			10	28.57		
	Strongly agree	20	57.14			6	17.14		
A3	Strongly disagree	0	0.00	4.60	Positive	4	11.43	3.14	Positive
	Disagree	0	0.00			5	14.29		
	Uncertain	1	2.86			12	34.29		
	Agree	12	34.29			10	28.57		
	Strongly agree	22	62.86			4	11.43		
A4	Strongly disagree	0	0.00	4.97	Positive	0	0.00	4.51	Positive
	Disagree	0	0.00			1	2.86		
	Uncertain	0	0.00			3	8.57		
	Agree	1	2.86			8	22.86		
	Strongly agree	34	97.14			23	65.71		
A5	Strongly disagree	0	0.00	4.60	Positive	7	20.00	2.89	Negative
	Disagree	0	0.00			5	14.29		
	Uncertain	3	8.57			10	28.57		
	Agree	8	22.86			11	31.43		
	Strongly agree	24	68.57			2	5.71		
A6	Strongly disagree	0	0.00	4.74	Positive	3	8.57	3.40	Positive
	Disagree	0	0.00			8	22.86		
	Uncertain	2	5.71			6	17.14		
	Agree	5	14.29			8	22.86		
	Strongly agree	28	80.00			10	28.57		
A7	Strongly disagree	0	0.00	4.91	Positive	0	0.00	4.54	Positive
	Disagree	0	0.00			1	2.86		
	Uncertain	0	0.00			4	11.43		
	Agree	3	8.57			5	14.29		
	Strongly agree	32	91.43			25	71.43		
A8	Strongly disagree	0	0.00	4.77	Positive	9	25.71	2.54	Negative
	Disagree	0	0.00			10	28.57		
	Uncertain	1	2.86			7	20.00		
	Agree	6	17.14			6	17.14		
	Strongly agree	28	80.00			3	8.57		
A9	Strongly disagree	0	0.00	4.69	Positive	3	8.57	3.97	Positive
	Disagree	0	0.00			1	2.86		
	Uncertain	0	0.00			4	11.43		
	Agree	11	31.43			13	37.14		
	Strongly agree	24	68.57			14	40.00		

Attitude Abbreviation: M.S. ≤ 3 means "Negative" and M.S. > 3 means "Positive".

Table. 4.9 Attitude items Continued		Study Post II				Control Post II			
		Freq.	%	MS	Assess.	Freq.	%	MS	Assess.
A10	Strongly disagree	0	0.00	4.74	Positive	0	0.00	3.74	Positive
	Disagree	0	0.00			7	20.00		
	Uncertain	1	2.86			7	20.00		
	Agree	7	20.00			9	25.71		
	Strongly agree	27	77.14			12	34.29		
A11	Strongly disagree	0	0.00	4.77	Positive	0	0.00	3.97	Positive
	Disagree	0	0.00			2	5.71		
	Uncertain	1	2.86			9	25.71		
	Agree	6	17.14			12	34.29		
	Strongly agree	28	80.00			12	34.29		
A12	Strongly disagree	0	0.00	4.80	Positive	1	2.86	3.71	Positive
	Disagree	0	0.00			5	14.29		
	Uncertain	0	0.00			7	20.00		
	Agree	7	20.00			12	34.29		
	Strongly agree	28	80.00			10	28.57		
A13	Strongly disagree	1	2.86	4.83	Positive	4	11.43	3.86	Positive
	Disagree	0	0.00			2	5.71		
	Uncertain	0	0.00			7	20.00		
	Agree	2	5.71			4	11.43		
	Strongly agree	32	91.43			18	51.43		
A14	Strongly disagree	0	0.00	4.77	Positive	1	2.86	3.86	Positive
	Disagree	0	0.00			0	0.00		
	Uncertain	1	2.86			12	34.29		
	Agree	6	17.14			12	34.29		
	Strongly agree	28	80.00			10	28.57		
A15	Strongly disagree	0	0.00	4.49	Positive	1	2.86	3.43	Positive
	Disagree	1	2.86			8	22.86		
	Uncertain	5	14.29			9	25.71		
	Agree	5	14.29			9	25.71		
	Strongly agree	24	68.57			8	22.86		
A16	Strongly disagree	1	2.86	4.49	Positive	9	25.71	2.89	Negative
	Disagree	0	0.00			6	17.14		
	Uncertain	1	2.86			6	17.14		
	Agree	12	34.29			8	22.86		
	Strongly agree	21	60.00			6	17.14		
A17	Strongly disagree	0	0.00	4.51	Positive	4	11.43	2.83	Negative
	Disagree	0	0.00			8	22.86		
	Uncertain	3	8.57			17	48.57		
	Agree	11	31.43			2	5.71		
	Strongly agree	21	60.00			4	11.43		
A18	Strongly disagree	1	2.86	4.74	Positive	1	2.86	4.20	Positive
	Disagree	1	2.86			2	5.71		
	Uncertain	0	0.00			7	20.00		
	Agree	2	5.71			4	11.43		
	Strongly agree	31	88.57			21	60.00		

Attitude Abbreviation: M.S. ≤ 3 means "Negative" and M.S. > 3 means "Positive".

Table 4.9 Attitude items Continued		Study Post II				Control Post II			
		Freq.	%	MS	Assess.	Freq.	%	MS	Assess.
A19	Strongly disagree	0	0.00	4.37	Positive	5	14.29	3.29	Positive
	Disagree	0	0.00			6	17.14		
	Uncertain	6	17.14			7	20.00		
	Agree	10	28.57			8	22.86		
	Strongly agree	19	54.29			9	25.71		
A20	Strongly disagree	0	0.00	4.51	Positive	1	2.86	3.49	Positive
	Disagree	0	0.00			6	17.14		
	Uncertain	3	8.57			9	25.71		
	Agree	11	31.43			13	37.14		
	Strongly agree	21	60.00			6	17.14		
A21	Strongly disagree	0	0.00	4.66	Positive	0	0.00	4.14	Positive
	Disagree	0	0.00			2	5.71		
	Uncertain	3	8.57			6	17.14		
	Agree	6	17.14			12	34.29		
	Strongly agree	26	74.29			15	42.86		
A22	Strongly disagree	0	0.00	4.54	Positive	1	2.86	3.31	Positive
	Disagree	1	2.86			11	31.43		
	Uncertain	2	5.71			8	22.86		
	Agree	9	25.71			6	17.14		
	Strongly agree	23	65.71			9	25.71		
A23	Strongly disagree	1	2.86	4.43	Positive	1	2.86	3.86	Positive
	Disagree	1	2.86			2	5.71		
	Uncertain	2	5.71			9	25.71		
	Agree	9	25.71			12	34.29		
	Strongly agree	22	62.86			11	31.43		
A24	Strongly disagree	1	2.86	4.43	Positive	7	20.00	2.94	Negative
	Disagree	0	0.00			6	17.14		
	Uncertain	4	11.43			10	28.57		
	Agree	8	22.86			6	17.14		
	Strongly agree	22	62.86			6	17.14		
A25	Strongly disagree	1	2.86	4.31	Positive	1	2.86	4.03	Positive
	Disagree	1	2.86			2	5.71		
	Uncertain	4	11.43			6	17.14		
	Agree	9	25.71			12	34.29		
	Strongly agree	20	57.14			14	40.00		
A26	Strongly disagree	0	0.00	4.57	Positive	0	0.00	3.91	Positive
	Disagree	1	2.86			4	11.43		
	Uncertain	5	14.29			5	14.29		
	Agree	2	5.71			16	45.71		
	Strongly agree	27	77.14			10	28.57		

Attitude Abbreviation: M.S. ≤ 3 means "Negative" and M.S. > 3 means "Positive".

Table 4.10: Distribution of the study sample responses in (Posttest II) concerning to Knowledge domains, total knowledge and total attitudes toward addiction and substance abuse.

Knowledge domains, total knowledge And total attitude		Study Post II				Control Post II			
		Freq.	%	M.S	Assess.	Freq.	%	M.S	Assess.
Concepts of Addiction & Substance Abuse	Poor	0	.00	1.86	Good	9	25.71	1.38	Fair
	Fair	2	5.71			21	60.00		
	Good	33	94.29			5	14.29		
General Information	Poor	0	.00	1.84	Good	7	20.00	1.47	Fair
	Fair	5	14.29			25	71.43		
	Good	30	85.71			3	8.57		
Physical effects	Poor	0	.00	1.77	Good	19	54.29	1.32	Poor
	Fair	14	40.00			14	40.00		
	Good	21	60.00			2	5.71		
Psychological effects	Poor	0	.00	1.88	Good	5	14.29	1.47	Fair
	Fair	1	2.86			22	62.86		
	Good	34	97.14			8	22.86		
Social & Economic Effects	Poor	0	.00	1.90	Good	1	2.86	1.80	Good
	Fair	1	2.86			3	8.57		
	Good	34	97.14			31	88.57		
Tobacco & Alcohol	Poor	1	2.86	1.85	Good	3	8.57	1.53	Fair
	Fair	1	2.86			28	80.00		
	Good	33	94.29			4	11.43		
7th Domain: 1- Causes	Poor	0	.00	1.93	Good	21	60.00	1.30	Poor
	Fair	2	5.71			6	17.14		
	Good	33	94.29			8	22.86		
7th Domain: 2- Prevention	Poor	1	2.86	1.90	Good	7	20.00	1.70	Good
	Fair	3	8.57			7	20.00		
	Good	31	88.57			21	60.00		
7th Domain: 3- Treatment	Poor	2	5.71	1.93	Good	10	28.57	1.63	Fair
	Fair	1	2.86			1	2.86		
	Good	32	91.43			24	68.57		
7th Domain Total	Poor	0	.00	1.92	Good	7	20.00	1.54	Fair
	Fair	2	5.71			13	37.14		
	Good	33	94.29			15	42.86		
Total Knowledge	Poor	0	.00	1.86	Good	4	11.43	1.50	Fair
	Fair	3	8.57			28	80.00		
	Good	32	91.43			3	8.57		
Total Attitudes	Negative	0	.00	4.64	Positive	4	11.43	3.60	Positive
	Positive	35	100.00			31	88.57		

Knowledge Abbreviation: M.S. ≤ 1.33, means "poor", M.S. (1.34-1.67) means "Fair" and M.S. ≥ 1.68 means "Good". Attitude Abbreviation: M.S. ≤ 3 means "Negative" and M.S. > 3 means "Positive".

The (table 4.8), (table 4.9) and (table 4.10) show knowledge responses of both control and study group of high school students in 2nd (Post) regarding the items of knowledge and attitudes besides the seven domains of knowledge, overall knowledge and attitudes toward drug addiction, where the knowledge measured in light of three categories (poor, fair and good), and the attitude in two categories (positive and negative). In detail, the responses of study and control group to the first domain which includes

concepts of drug addiction and substance abuse was good for study group (94.2%) and fair for the control group (60%) with mean score (1.86, 1.38), respectively.

Also, the second domain which is general information on drug addiction, 85.7% of participants had good assessment for study group with (M.S. 1.84) and fair for control group (71%) with mean of score (1.47). Whereas, concerning physical effects of drug abuse 60% study group possessed good knowledge (1.77) and 54.29% of control group had poor assessment (1.32). But, the domain regarding socioeconomic effects of substance addiction, the assessment of knowledge was good for all groups (97% for study and 88.57% for control group). The knowledge of students for fourth domain or psychological effects of substance abuse was good for study (1.88) and fair for control (1.47) groups. The control group expressed fair assessment toward tobacco and alcohol abuse (M.S. 1.53), in addition the study group mean of score was 1.85 with good assessment.

Moreover, the total knowledge for causes, prevention, as well as treatment of drug addiction among high-school students included in study was good for study (1.92) and (1.54) as fair for control group.

The overall knowledge of study and control group of high school students exposed good assessment with means of scores (1.86) for (91.43%) students in study group and fair knowledge (1.50) among (80%) of control group.

Correspondingly the attitude responses of students, for study and control group, in the 2nd Post-test toward drug addiction were positive with mean of score (4.64) for study group and (3.60) for control group.

Table 4.11: Comparison of overall knowledge between study and the control group in the three assessment phases of study (pre) and (2-posts).

Test	Study (n=35)	Control (n=35)	Independent t-Test (df)	P-value	Sig.
	Mean ± SD	Mean ± SD			
Pre	1.47±0.17	1.54±0.15	-1.59 (68)	0.116	NS
Post-I	1.80±0.16	1.58±0.15	5.59 (68)	0.0001	HS
Post-II	1.86±0.11	1.50±0.13	12.23 (68)	0.0001	HS

Significancy p-value ≤ 0.05 S(significant), p-value ≤ 0.001 high significant

Independent t-test executed to detect variances in means between study and control groups at each phases of examination (pre, post-test I and post-test II). Table (4.11) reveals that students' overall knowledge has no significant differences among study and control groups in pre-test examination (P-value > 0.05). While the Independent t-test shows that students' overall knowledge having very high significant differences in means between study and control groups (in Post-tests 1st and 2nd), at P-value ≤ (0.001), concerning drug addiction and substance abuse.

Table 4.12: Comparing overall attitude among control and study groups in (over three tests).

Test	Study	Control	Independent t-Test (df)	P-value	Sig.
	Mean ± SD	Mean ± SD			
Pre	3.43±0.42	3.58±0.33	1.61 (68)	0.11	NS
Post-I	4.56±0.21	3.63±0.34	13.68 (68)	0.0001	HS
Post-II	4.63±0.16	3.60±0.36	15.33 (68)	0.0001	HS

The table (4.12) shows that high-school students' attitudes between control and study groups in (Pre-Test) exam significantly not different at (P-value > 0.05). However, the Independent t-Test in both (in Post-I and Post-II) exposes highly statistical significancy in total attitudes P-value (≤ 0.05) between control and study groups.

A. The drug addiction education program effectiveness on students' knowledge of 1st domain.

Table 4.13: Repeated Measures of ANOVA Tests for students' knowledge about the 1st domain (concepts of drug addiction and substance abuse).

Knowledge of addiction concepts	*R. M. of ANOVA*			
	F, (Fisher)	p	S. E. (d)	O. P.
Effect of. Time (within)	103.511	0.001	0.604	1
Effect among groups (between)	48.714	0.001	0.417	1.0
Interaction. of groups. overtime	82.275	0.001	0.547	1

S.E. = size effect, O.P. = observed power, R. M. ANOVA= repeated measure of anova.

The table (4.13) shows that the test within groups is significant (main time effect) (F: 103.511, P=0.001). Consistently, the among groups interaction (between) is statistically very high significant (F = 48.714, P = 0.001). Likewise, regarding interaction of groups over time also the result was very high significant (F = 82.275, P = 0.001).

Table 4.14: Differences within the Three Phases regarding 1st domain by using Post hoc tests.

The 1st factor (I)	The 2nd factor (J)	(I-J) or Difference among Means	SE	Bonferroni Sig. 0.05	Conf. Int. is 95%	
					Lower Bound	Upper Bound
1 (Pre)	2 (Post I)	-0.302-	.023	.0001	-.359-	-.245-
	3 (Post II)	-.231-	.022	.0001	-.285-	-.177-
2 (Post I)	1 (Pre)	.302	.023	.0001	.245	.359
	3 (Post II)	.071	.020	.003	.021	.122
3 (Post II)	1 (Pre)	.231	.022	.0001	.177	.285
	2 (Post I)	-.071-	.020	.003	-.122-	-.021-

The table (4.14) reveals multiple comparisons of post-hoc test (Bonferroni test), between three tests, there is a very high statistical difference (p-value 0.0001) among (Pre-& 1st Post-), as well as (Pre-& 2nd

Post-). Also, the (2nd post- tests) was statistically significant with (post-test-I) (P-value = 0.003). Thus, knowledge of students revealed highly significant changes between first and second phase and between first and third phase P-value (≤ 0.001).

According to (Figure 4.3) the line of control and study group were changing over time differently and are not parallel which indicates significant interaction.

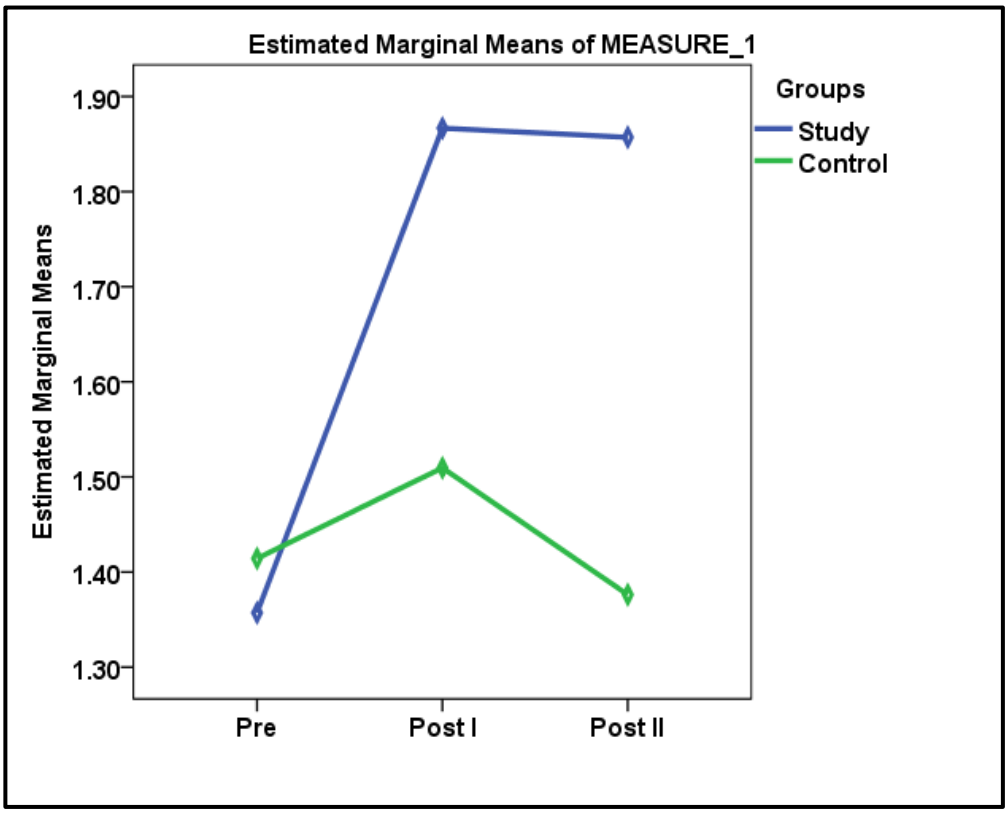


Figure 4.3. The Plot Fluctuations in the high school students' knowledge levels concerning to concepts of substance abuse and addiction for study & control group all over the three tests.

B. effectiveness of drug addiction program on students' knowledge of 2nd domain.

The Table 4.15: Test of R. M. ANOVA for high-school students' knowledge on 2nd domain (general information toward drug addiction and abuse).

Knowledge of drug addiction general information	*R. M. of ANOVA*			
	F, (Fisher)	p	S. E. (d)	O. P.
Effect of. Time (within)	53.436	0.001	0.440	1
Effect among groups (between)	19.025	0.001	0.219	0.99
Interaction. of groups. overtime	46.622	0.001	0.407	1

The table 4.15 showes the analysis of variance by repeated measure for second domain which is general information on drug addiction. The effect of time among studied groups is significant (within the group). While, the test exposed that effect among groups (between) is also significant. Similarly, the total groups interaction over time also was highly significant.

Table 4.16: Differences within the Three Phases regarding 2nd Domain (students' general information toward drug addiction and substance abuse) by using Post hoc tests.

The 1st factor (I)	The 2nd factor (J)	(I-J) or Difference among Means	SE	Bonferroni Sig. 0.05	Conf. Int. is 95%	
					Lower Bound	Lower Bound
1 (Pre)	2 (Post I)	-.186-	.022	0.0001	-.239-	-.132-
	3 (Post II)	-.173-	.021	0.0001	-.224-	-.121-
2 (Post I)	1 (Pre)	.186	.022	0.0001	.132	.239
	3 (Post II)	.013	.017	1.000	-.030-	.056
3 (Post II)	1 (Pre)	.173	.021	0.0001	.121	.224
	2 (Post I)	-.013-	.017	1.000	-.056-	.030

This table (4.16) shows that the changes in knowledge for general informatin of drug abuse were significant between the first intial test with the two post-program tests and not significant for 1st with 2nd post-program tests (p.value: 1).

Regarding figure (4.4), it shows that knowledge of students for this domain was changing over time and the mean score line of knowledge was not parallel, thus significant interaction.

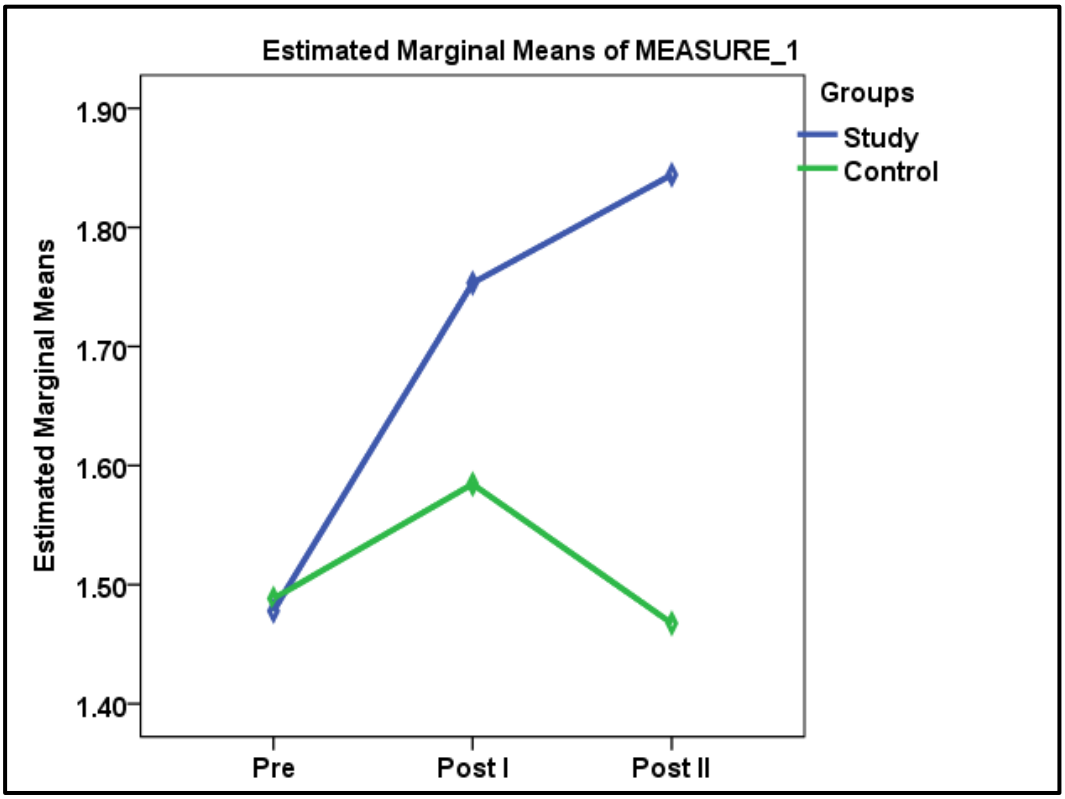


Figure 4.4. The Plot Variations in the high school students' knowledge levels concerning general information on substance abuse and drug addiction for study & control group all over the three tests.

C. Effectiveness of substance addiction program on students' knowledge of 3rd domain.

Table 4.17: ANOVA Test using Repeated Measures of for (3rd domain) knowledge of participants on physical effects of drug addiction and abuse.

Knowledge of drug addiction physical effects	*R. M. of ANOVA*			
	F, (Fisher)	p	S. E. (d)	O. P.
Effect of. Time (within)	37.09	0.001	0.353	1.00
Effect among groups (between)	7.306	0.009	0.097	0.759
Interaction. of groups. overtime	50.345	0.001	0.425	1.00

The table (4.17) reveals that the effect of time on interaction within groups is highly significant (F: 37.09) and (P. value: 0.001), as well, the interaction effect among groups (between) is also high significant (p. value is 0.009). Similarly, the total interactions overtime for both groups is high significant (F=50.435) and P.value 0.001).

Table 4.18. Differences within the Three Phases regarding high school students' knowledge of physical effects of drug addiction (3rd domain) by using Post hoc tests.

The 1st factor (I)	The 2nd factor (J)	(I-J) or Difference among Means	SE	Bonferroni Sig. 0.05	Conf. Int. is 95%	
					Lower Bound	Lower Bound
1 (Pre)	2 (Post I)	-.231-	.031	0.0001	-.307-	-.156-
	3 (Post II)	-.229-	.031	0.0001	-.306-	-.151-
2 (Post I)	1 (Pre)	.231	.031	0.0001	.156	.307
	3 (Post II)	.003	.030	1.000	-.072-	.077
3 (Post II)	1 (Pre)	.229	.031	0.0001	.151	.306
	2 (Post I)	-.003-	.030	1.000	-.077-	.072

According to this post-hoc (Bonferroni) table (4.18), the pre-test knowledge for physical effects of drug addiction is high significantly changed after program assessment (pre-tests against the 1st and 2nd post-tests) is statistically very high). But, the multiple comparisons of knowledge between the first and second post-exams are not significant and statistically not different.

The figure (4.5) expresses the knowledge fluctuation among study and control groups all over three assessment phases concerning physical effects of substance addiction.

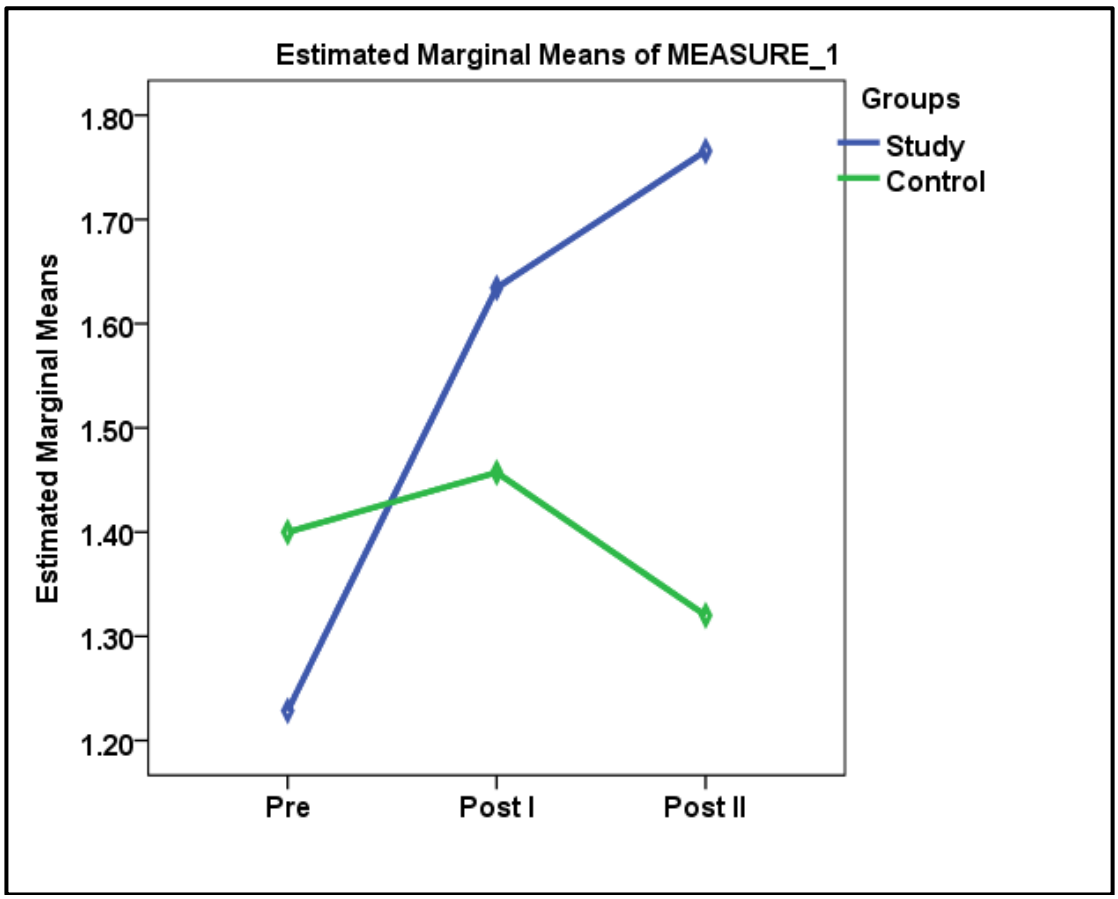


Figure 4.5. The Plot Changes in the high school students' knowledge levels concerning physical effects of substance abuse and drug addiction for study & control group all over the three tests.

D. Effectiveness of current program on students' knowledge of 4th domain.

Table 4.19. Tests for 4th domain (knowledge of high school students on psychological effects of drug addiction) through Repeated Measures of analysis of variance.

Knowledge about psychologic effects of drug addiction	R.M. ANOVA			
	F, (Fisher)	P.	S. E. (d)	O. P.
Effect of. Time (within)	31.232	0.001	0.315	1
Effect among groups (between)	26.376	0.001	0.279	0.999
Interaction. of groups. overtime	52.77	0.001	0.437	1

Table (4.19) shows that the test within groups is highly significant (main time effect) (F: 31.232, p.value=0.001). Consistently, the among groups interaction (between) is statistically high significant (F = 26.376, P = 0.001). Likewise, regarding interaction of groups over time also the result was high significant (Fisher= 52.77, P = 0.001).

Table 4.20. Differences within the Three Phases regarding knowledge of participants about psychological effects of drug addiction (4th domain) by using Post hoc tests.

The 1st factor (I)	The 2nd factor (J)	(I-J) or Difference among Means	SE	Bonferroni Sig. 0.05	Conf. Int. is 95%	
					Low. Bound	Up. Bound
1 (Pre)	2 (Post I)	-.200-	.025	0.0001	-.262-	-.138-
	3 (Post II)	-.157-	.030	0.0001	-.232-	-.082-
2 (Post I)	1 (Pre)	.200	.025	0.0001	.138	.262
	3 (Post II)	.043	.024	.231	-.016-	.101
3 (Post II)	1 (Pre)	.157	.030	0.0001	.082	.232
	2 (Post I)	-.043-	.024	.231	-.101-	.016

The table (4.20) reveals multiple comparisons of post-hoc test (Bonferroni test), between three phases for 4th domain, which there is a

statistical difference (significancy 0.0001) among (Pre-& 1st Post-), as well as (Pre-& 2nd Post-). While, the (2nd post- assessment) was statistically not significant with (post-test-I) (P-value = 0.231). Thus, knowledge of students about psychological effects revealed highly significant changes between first and second phase and between first and third phase P-value (≤ 0.001), in addition no significant change (when P-value above 0.05) among second and last phase. So, knowledge of students concerning this domain changed between three stages of study.

According to (Figure 4.6) the line of control and study group knowledge concerning psychological effects were changing over time differently and are not parallel which indicates significant interaction.

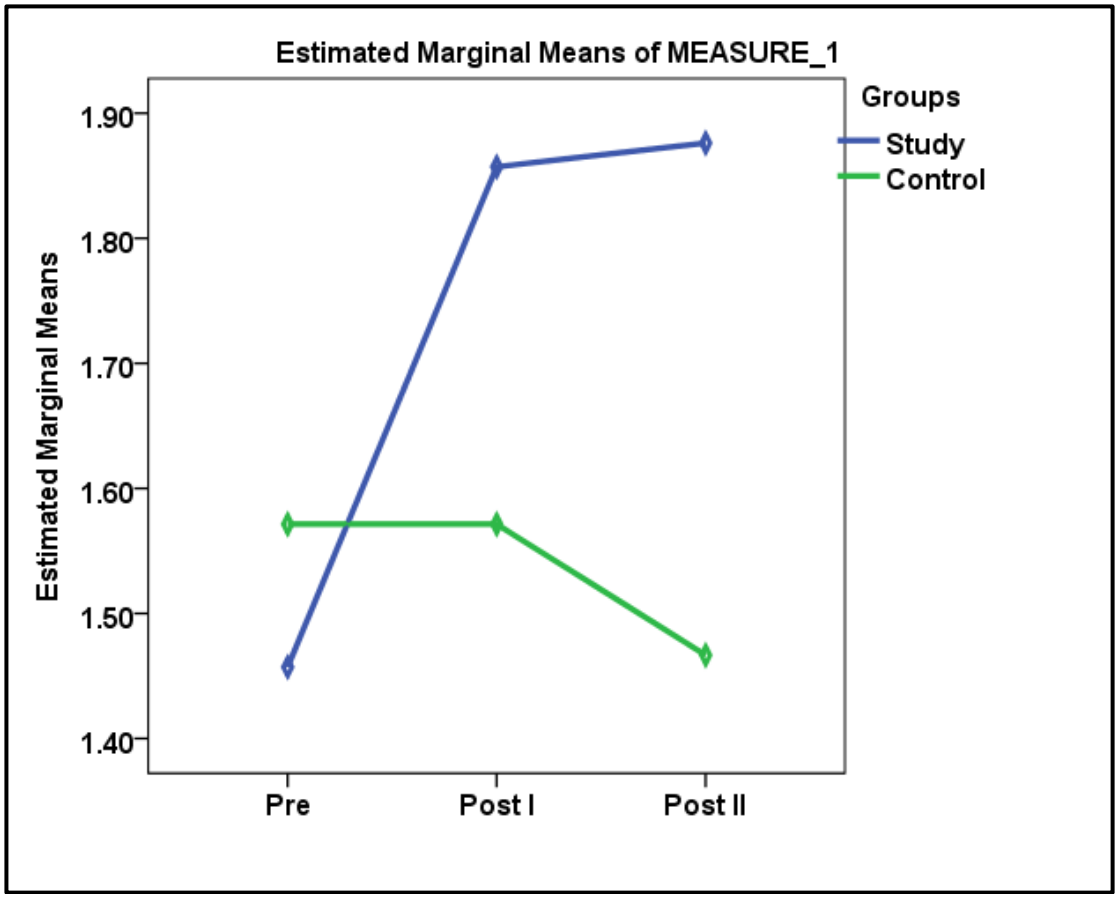


Figure 4.6. The Plot Fluctuations in the high school students' knowledge levels concerning psychological effects of substance abuse and drug addiction for study & control group all over the three tests.

E. Effectiveness of present program on students' knowledge of 5th domain.

Table 4.21. R. M. of ANOVA for students' knowledge about socio-economic effects of substance abuse and addiction (5th Domain).

Knowledge of socioeconomic effects of drug addiction	R.M. ANOVA			
	F, (Fisher)	P.	S. E. (d)	O. P.
Effect of. Time (within)	9.857	0.001	0.127	0.968
Effect among groups (between)	0.408	0.525	0.006	0.096
Interaction. of groups. overtime	13.682	0.001	0.168	0.995

According to (table 4.21) the main time effects (interaction within groups) in program is statisticaly high significant (p. 0.001) but effects of interaction among group is not statistically significant p.value above (0.05) . However, The total interaction of groups overtime is high significant (p.value 0.001).

Table 4.22. Alterations in students' knowledge about regarding socio-economic effects of substance abuse and drug addiction (5th Domain), over 3 Phases of examination by using Post hoc tests.

The 1st factor (I)	The 2nd factor (J)	(I-J) or Difference among Means	SE	Bonferroni Sig. 0.05	Conf. Int. is 95%	
					Low. Bound	Up. Bound
1 (Pre)	2 (Post I)	-.100-	.031	0.005	-.175-	-.025-
	3 (Post II)	-.129-	.036	0.002	-.217-	-.041-
2 (Post I)	1 (Pre)	.100	.031	0.005	.025	.175
	3 (Post II)	-.029-	.023	0.678	-.086-	.029
3 (Post II)	1 (Pre)	.129	.036	0.002	.041	.217
	2 (Post I)	.029	.023	0.678	-.029-	.086

Table (4.22) reveals the outcome of the Bonferroni test to compare the difference in means over the three levels of assessment concerning

knowledge for the 5th domain, in detail the pre-test assessment is a highly significant difference with the 2nd and 3rd tests (p.value is 0.005 and 0.002 respectively). However, the knowledge of students in the two post-assessment is not significantly different from each other.

According to (Figure 4.7) the line of knowledge concerning socio-economic effects among study and control group were changing over time differently and are not parallel which indicates significant interaction.

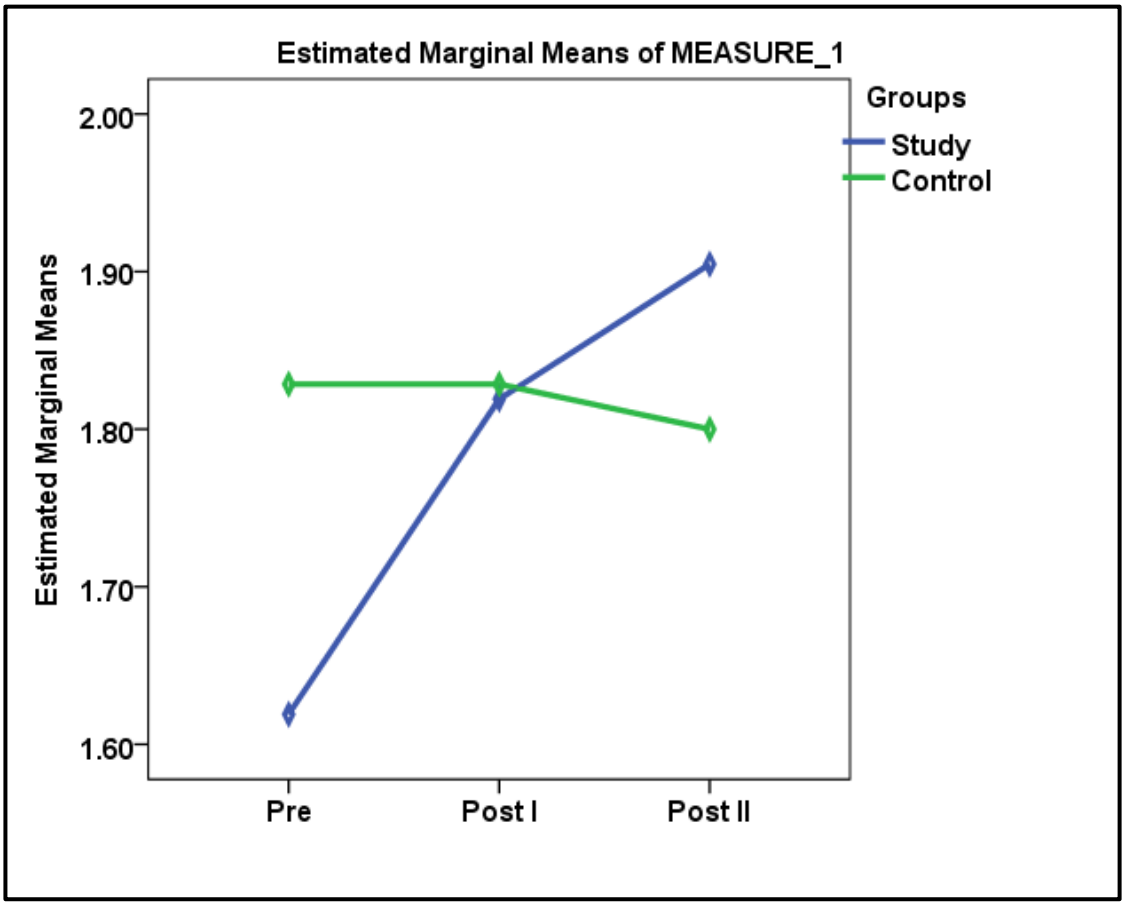


Figure 4.7. The Plot Fluctuations in the high school students' knowledge levels concerning socio-economic effects of substance abuse and drug addiction for study & control group all over the three tests

F. Effectiveness of contemporary program on students' knowledge of Alcohol and Tobacco abuse and addiction.

Table 4.23. The knowledge of high school students about tobacco and alcohol addiction (6th Domain) by ANOVA Repeated Measure

Knowledge about tobacco and alcohol addiction	R.M. ANOVA			
	F, (Fisher)	P.	S. E. (d)	O. P.
Effect of. Time (within)	63.68	0.001	0.484	1
Effect among groups (between)	16.453	0.001	0.195	0.979
Interaction. of groups. overtime	61.49	0.001	0.475	1

According table 4.23, the main time effects (interaction within groups) in the program are statistically significant (p. 0.001), also the effects of interaction among groups are statistically high significant p.value below (0.05). However, The total interaction of groups over time is high significant (p.value 0.001).

Table 4.24. Differences within the Three Phases regarding knowledge of students about tobacco and alcohol addiction (6th Domain) by using Post hoc tests.

The 1st factor (I)	The 2nd factor (J)	(I-J) or Difference among Means	SE	Bonferroni Sig. 0.05	Conf. Int. is 95%	
					Low. Bound	Up. Bound
1 (Pre)	2 (Post I)	-.207-	.017	0.0001	-.249-	-.165-
	3 (Post II)	-.181-	.023	0.0001	-.239-	-.124-
2 (Post I)	1 (Pre)	.207	.017	0.0001	.165	.249
	3 (Post II)	.026	.019	0.541	-.021-	.072
3 (Post II)	1 (Pre)	.181	.023	0.0001	.124	.239
	2 (Post I)	-.026-	.019	0.541	-.072-	.021

Table (4.24) reveals the outcome of the Bonferroni test to compare the difference in means over the three levels of assessment concerning knowledge for the 6th domain, in detail the pre-test assessment is a highly

significant difference with the 2nd and 3rd tests (p.value is 0.0001). However, the knowledge of students in the two post-assessment is not significantly different from each other.

Concerning figure (4.8), it shows that knowledge of students tobacco and alcohol addiction domain which is changing over time and the mean score line of knowledge is not parallel, thus significant interaction exist.

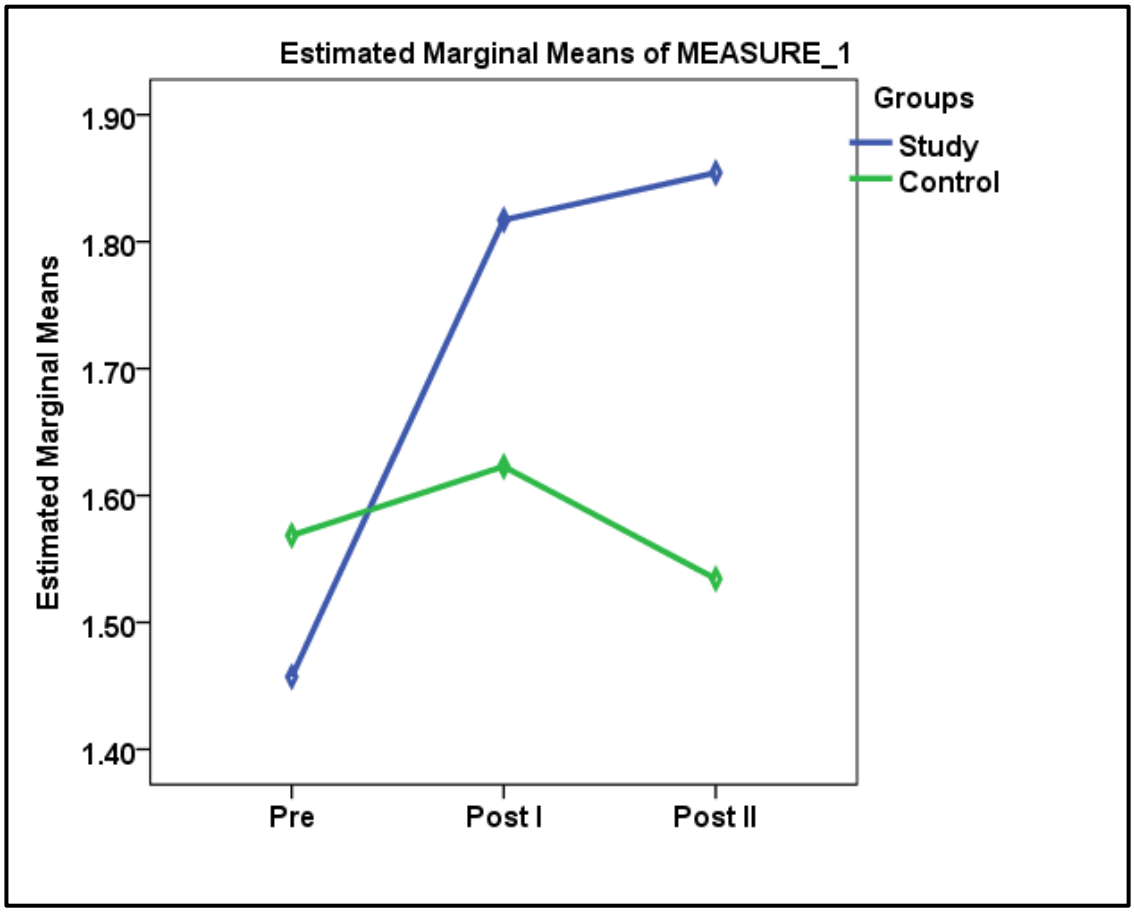


Figure 4.8. The Plot Fluctuations in the high school students' knowledge levels concerning tobacco and alcohol abuse and drug addiction for study & control group all over the three tests

G. Effectiveness of current education program on students' knowledge of causes, prevention and treatment of drug abuse and addiction.

Table 4.25. Students' knowledge regarding 7th Domain (causes, prevention and treatment of drug addiction).

Knowledge about 7th domain Total	R.M. ANOVA			
	F, (Fisher)	P.	S. E. (d)	O. P.
Effect of. Time (within)	25.56	0.001	0.273	1.00
Effect among groups (between)	16.13	0.001	0.192	0.977
Interaction. of groups. overtime	24.77	0.001	0.267	1.00

Rendering to table 4.25 the main time effects (interaction within groups) in program is statisticaly high significant (p. 0.001) and effects of interaction among group is also statistically high significant p.value below (0.05) .Also, the total interaction of groups overtime is high significant (p.value 0.001).

Table 4.26. Variances in knowledge regarding causes, prevention and treatment of drug addiction (7th Domain), by using Post hoc tests over the Three exam.

The 1st factor (I)	The 2nd factor (J)	(I-J) or Difference among Means	SE	Bonferroni Sig. 0.05	Conf. Int. is 95%	
					Low. Bound	Up. Bound
1 (Pre)	2 (Post I)	-.196-	.027	0.0001	-.262-	-.131-
	3 (Post II)	-.216-	.041	0.0001	-.316-	-.116-
2 (Post I)	1 (Pre)	.196	.027	0.0001	.131	.262
	3 (Post II)	-.020-	.031	1.000	-.096-	.057
3 (Post II)	1 (Pre)	.216	.041	0.0001	.116	.316
	2 (Post I)	.020	.031	1.000	-.057-	.096

Table (4.26) reveals the outcome of the Bonferroni test to compare the difference in means over the three levels of assessment concerning knowledge for the 7th domain, in detail the pre-test assessment is a highly significant difference with the 2nd and 3rd tests (p.value is 0.0001). However, the knowledge of students in the two post-assessment is not significantly different from each other.

Concerning figure (4.9), it shows that knowledge of students on the treatment, causes and prevention of drug addiction domain which is changing over time and the mean score line of knowledge is not parallel, thus significant interaction exist.

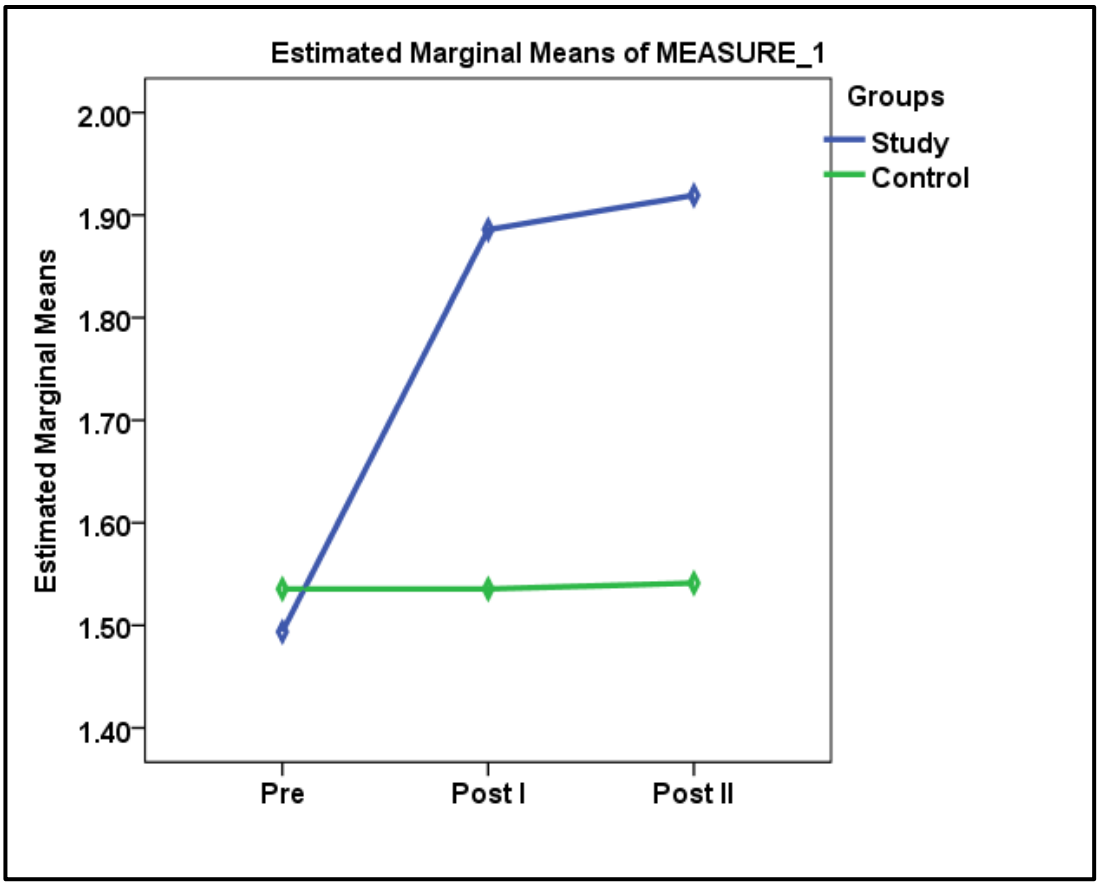


Figure 4.9. The Fluctuations in the high school students' knowledge levels regarding treatment, prevention and causes of substance abuse and drug addiction for study & control group all over the three tests

H. Effectiveness of current education program on students' overall knowledge of drug abuse and addiction.

Table 4.27. R.M. ANOVA used for Overall Knowledge of participants regarding substance abuse and drug addiction.

Overall Knowledge of drug addiction and abuse	R.M. ANOVA			
	F, (Fisher)	P.	S. E. (d)	O. P.
Effect of. Time (within)	91.56	0.001	0.574	1.00
Effect among groups (between)	30.83	0.001	0.312	1.00
Interaction. of groups. overtime	99.97	0.001	0.595	1.00

The table (4.27) shows that the main time effect (test within groups) is significant (F = 91.56, P = 0.001). Consistently, the interaction between groups (time and groups) is statistically high significant (F = 30.83, P = 0.001). Likewise, regarding interaction of groups over time also the result was high significant (F = 99.97, P = 0.001).

Table 4.28. Differences within the Three Phases regarding Overall Knowledge of participants by using Post hoc tests.

The 1st factor (I)	The 2nd factor (J)	(I-J) or Difference among Means	SE	Bonferroni Sig. 0.05	Conf. Int. is 95%	
					Low. Bound	Up. Bound
1 (Pre)	2 (Post I)	-.184-	.019	0.0001	-.230-	-.139-
	3 (Post II)	-.169-	.019	0.0001	-.216-	-.122-
2 (Post I)	1 (Pre)	.184	.019	0.0001	.139	.230
	3 (Post II)	.015	.013	0.677	-.016-	.046
3 (Post II)	1 (Pre)	.169	.019	0.0001	.122	.216
	2 (Post I)	-.015-	.013	0.677	-.046-	.016

The table (4.28) reveals multiple comparisons of post-hoc test (Bonferroni test), between three phases, which there is a very high statistical difference (significancy 0.0001) between (Pre-Test and Post-Test I), as well

as (Pre-Test with Post-Test II). While, the (post-test II) was statistically not significant with (post-test I) (P-value = 0.677). Thus, the overall knowledge of students revealed highly significant changes between first and second phase and between first and third phase (P-value ≤ 0.001), and non-significant (P-value > 0.05) difference between second and last phase in their total knowledge regarding drug addiction. So, the overall knowledge of students changed between three stages of study.

According to (Figure 4.10) the line of control and study group were changing over time differently and are not parallel which indicates significant interaction.

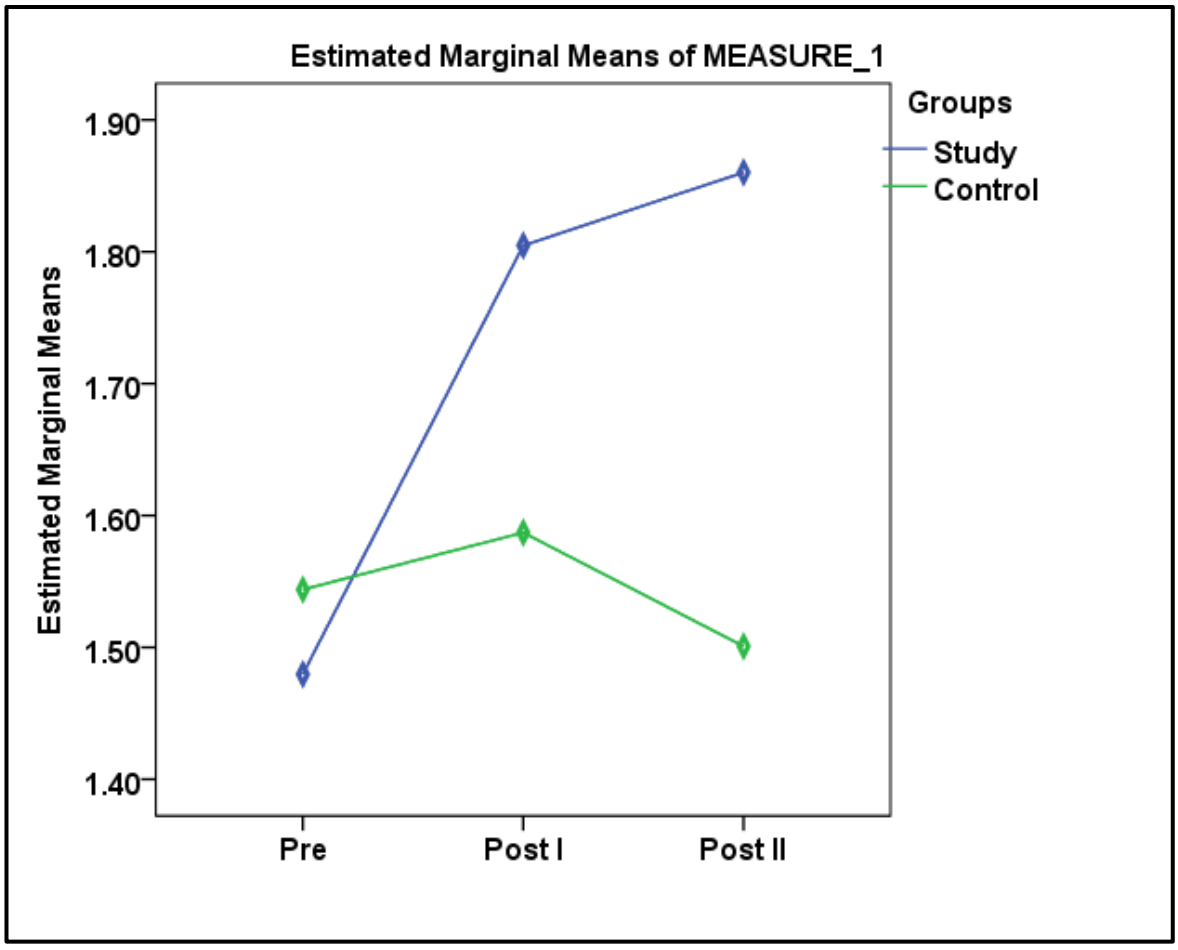


Figure 4.10. The Differences in the high school students' overall knowledge regarding substance abuse and drug addiction for study & control group all over the three assessments.

I. Effectiveness of current education program on students' overall Attitudes toward drug abuse and addiction.

Table 4.29. Analysis of Overall Attitudes of high school students toward drug addiction using R. M. ANOVA.

Overall attitudes toward drug addiction	R. M. ANOVA			
	F, Fisher	P.	S. E. (d)	O. P.
Effect of. Time (within)	205.202	0.001	0.751	1
Effect among groups (between)	86.299	0.001	0.559	1
Interaction. of groups. overtime	183.319	0.001	0.729	1

The table (4.29) shows that the test of interaction of attitudes within groups is high significant (main time effect) (F: 205.202, P=0.001). Consistently, the among groups interaction (between) is statistically high significant (F = 86.299, P = 0.001). Likewise, regarding interaction of groups over time also the result was high significant (F = 183.319, P = 0.001).

Table 4.30. Alterations of Overall Attitudes of participants, by using Post hoc tests over all Phases of study.

The 1st factor (I)	The 2nd factor (J)	(I-J) or Difference among Means	SE	Bonferroni Sig. 0.05	Conf. Int. is 95%	
					Low. Bound	Up. Bound
1 (Pre)	2 (Post I)	-.592-	.035	0.0001	-.679-	-.506-
	3 (Post II)	-.611-	.041	0.0001	-.711-	-.510-
2 (Post I)	1 (Pre)	.592	.035	0.0001	.506	.679
	3 (Post II)	-.019-	.025	1.000	-.079-	.042
3 (Post II)	1 (Pre)	.611	.041	0.0001	.510	.711
	2 (Post I)	.019	.025	1.000	-.042-	.079

The table (4.30) reveals several contrasts of post-hoc test (Bonferroni test), between three phases, which there is a statistical difference (significancy 0.0001) among (Pre-& 1st Post-), as well as (Pre-& 2nd Post-). While, the (2nd post- assessment) was statistically not significant with (post-test-I) (P-value = 1). Thus, attitudes of students revealed highly significant changes between first and second phase and between first and third phase P-value (≤ 0.05), in addition no significant change (when P-value above 0.05) among second and last phase in their overall attitudes regarding drug addiction was noticed. So, overall attitudes of students changed between three stages of study.

According to (Figure 4.11) the line of control and study group students were changing over time differently and are not parallel which indicates significant interaction in overall attitudes toward drug addiction.

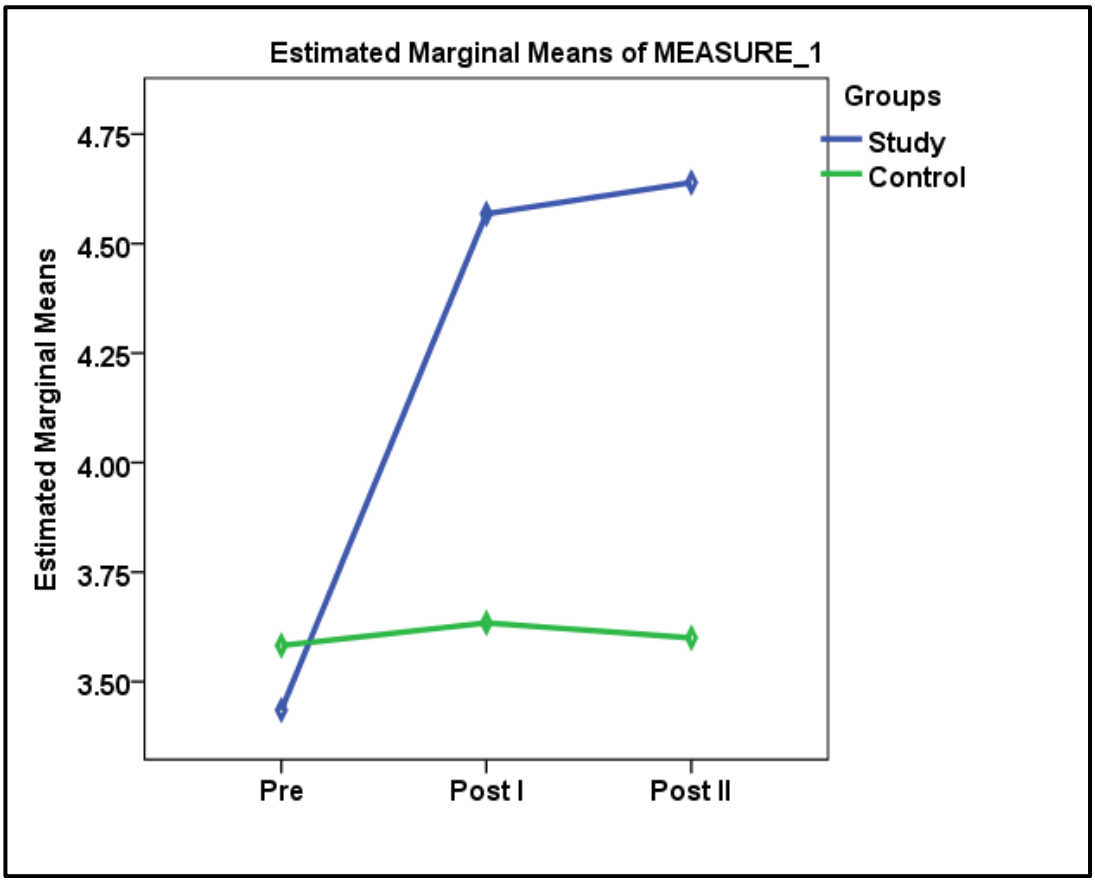


Figure 4.11. The plot Variations in the high school students' overall Attitudes toward substance abuse and drug addiction for study & control group all over the three tests.

Table 4.31. Association between demographic characteristics, total Knowledge and total attitude for Study Group (Post I).

Table 4.31		Knowledge (post I)			Chi-square (df)	Sig.	Attitude (post I)		Chi-square (df)	Sig.
		Poor	Fair	Good			Negative	Positive		
Age Groups (Years)	<= 18	0	4	15	.03(1)	.86	0	19	All responses are at the same category	
	> 18	0	3	13			0	16		
Gender	Male	0	5	11	2.33(1)	.13	0	16		
	Female	0	2	17			0	19		
Residency	Rural	0	0	1	.25(1)	.61	0	1		
	Urban	0	7	27			0	34		
Stage	4th Stage	0	0	5	1.47(2)	.47	0	5		
	5th Stage	0	2	6			0	8		
	6th Stage	0	5	17			0	22		
Educational level of Fathers	Illiterate	0	0	0	5.08(5)	.40	0	0		
	Read and Write	0	2	5			0	7		
	Primary school	0	1	1			0	2		
	middle school	0	0	9			0	9		
	High school	0	1	1			0	2		
	college	0	3	11			0	14		
	(M.Sc. & Ph.D.) post-graduate	0	0	1			0	1		
level of Mother's Education	Illiterate	0	0	2	2.59(5)	.76	0	2		
	Read and Write	0	2	5			0	7		
	Primary school	0	1	4			0	5		
	middle school	0	1	9			0	10		
	High school	0	1	1			0	2		
	college	0	2	7			0	9		
	(M.Sc. & Ph.D.) post-graduate	0	0	0			0	0		
Father's Occupational level	Employed	0	5	7	11.77(4)	.01	0	12		
	Self employed	0	0	12			0	12		
	retired	0	0	5			0	5		
	Clerk	0	1	0			0	1		
	Unemployed	0	1	4			0	5		
Mother's Occupational level	Employed	0	2	5	1.94(3)	.58	0	7		
	Self employed	0	1	1			0	2		
	retired	0	0	1			0	1		
	House Wife	0	4	21			0	25		
Family Monthly Income	Enough	0	5	10	4.11(2)	.13	0	15		
	Barely enough	0	1	16			0	17		
	Not enough	0	1	2			0	3		
Cigarette Smoking	Yes	0	2	3	1.45(1)	.22	0	5		
	No	0	5	25			0	30		
Family Cigarette Smoking	Yes	0	5	20	.001(1)	1.00	0	25		
	No	0	2	8			0	10		
Alcohol Drinking	Yes	0	0	0			0	0		
	No	0	7	28			0	35		
Family Alcohol Drinking	Yes	0	1	1	1.19(1)	.27	0	2		
	No	0	6	27			0	33		

This table (Table 4.31) reveals that Fathers' Occupational level of students have a statistical significant association with their overall knowledge (x^2 = 11.77, P-value = 0.01), while the attitudes of students concerning substance abuse and addiction for study group were in the same category (positive) thus chi-square test is ineffective in testing.

Regarding age of students (less than or equal to 18 years old or above 18 years old), gender of students (male, female), residency (rural or urban), stage of high school (4^{th}, 5^{th}, and $6^{th)}$, father's occupational status, mother's occupational state, father's educational degree, mother's educational level, and family income, there is no significant association with study group's (Post-Test I) knowledge toward drug addiction and abuse.

Table 4.32. Correlation between knowledge domains, total Knowledge and total attitude for Study Group (Post-I).

Table 4.32		Concepts of Addic. & Substance Abuse	General Information	Physical effects	Psychological effects	Social & Economic Effects	Tobacco & Alcohol	Causes, prevention treatment	Overall knowledge	Overall Attitude
Concepts of Addiction & Abuse	*r*		0.624**	0.558**	0.415*	0.158	0.483**	0.386*	0.654**	0.532**
	Two-Tailed Significant		0.000	0.000	0.013	0.366	0.003	0.022	0.000	0.001
General Information	*r*			0.734**	0.734**	0.547**	.679**	0.351*	0.903**	0.640**
	Two-Tailed Significant			0.000	0.000	0.001	0.000	0.039	0.000	0.000
Physical effects	*r*				0.684**	0.448**	0.619**	0.398*	0.893**	0.428*
	Two-Tailed Significant				0.000	0.007	0.000	0.018	0.000	0.010
Psychological effects	*r*					0.330	0.453**	0.095	0.729**	0.473**
	Two-Tailed Significant					0.053	0.006	0.589	0.000	0.004
Social & Economic Effects	*r*						0.681**	0.187	0.681**	0.400*
	Two-Tailed Significant						0.000	0.283	0.000	0.017
Tobacco & Alcohol	*r*							0.170	0.790**	0.534**
	Two-Tailed Significant							0.330	0.000	0.001
Causes, prevention & treatment	*r*								0.469**	0.455**
	Two-Tailed Significant								0.005	0.006
Overall knowledge	*r*									0.639**
	Two-Tailed Significant									0.000
Overall Attitude	*r*									
	Two-Tailed Significant									
Two-Tailed Significant at 0.01 = **. *r.*										
Two-Tailed Significant at 0.05 = *. *r.*										

According to table (4.32) the overall knowledge of students is associated significantly with their attitudes toward drug abuse and addiction, besides no significant association found among 3rd, 4th and 5th domains with 7th domain, additionally socio-economic knowledge domain also not associated with concepts of drug addiction domain.

Chapter Five

Discussion of The Results

Chapter five

Discussion of results

The current study intended to implement an educational program to improve high school students' knowledge of drug addiction and substance abuse and directing their attitudes toward positive direction which means rejecting and avoiding drug addiction and substance abuse issue.

During this chapter, the results of study will be discussed based on main objectives of research and according to study domains, thus to be systematically organized in very well manner.

5.1. Discussion of socio-demographic characteristics:

Total of seventy high school students participated in the study with mean of age 18.3 for study group and 17.7 for control group (Table 4.1). This finding is clearly related to fact that the standard age for 10^{th} grade is 16 in Iraq as reported by Issa and Jamil, (2010). This is consistent with Jordanian research done by Haddad *et al.*, (2010), who reported that more than half of participants aged above 17 years, because Jordanian educational system states that the age of 16 is the standard for entering high school levels in Jordan (UNICEF, 2020). Correspondingly, Salim and Siddiqui, (2015) from Saudi Arabia agreed with our current finding where their education system is similar to Iraq in the number of primary to high school education levels.

Contrarily, Uzun and Kelleci, (2018) conducted a research on substance abuse avoiding among high school students and found that the prominent age among high school students was from 14 to 16 years old, this may be due to differences between Iraqi education system and Turkish education system.

Concerning gender, the present study revealed that about 53% of students were female, while male gender constituting 47% of the sample

(Table 4.1). Mahmood *et al.*, (2018) supported this finding in their educational intervention on Iraqi, kurdstanian high school students to improve knowledge of substance abuse which found that 54% of study sample were females. Whereas, another Iraqi study disagreed with current result, where Mahmood *et al.*, (2019) reported that more than 56% of students were males. This variation in participants' gender mainly due to type of study sample and study design used, and the current study sample lacked for randomization while the other study used randomization technique with large sample size, which is a prevalent study and different from current quasi-experimental research.

Regarding study sample residency, the vast majority are urban dwellers, in which the three quarters of population in Al-Najaf city are urban inhabitants (Al-Tameemi and Khudair, 2016). Hansadah and Sonalika, (2018) disagreed with this finding and demonstrated that 88% of participants were from rural area in India. The reason for this discrepancy may be related to the high population density in India, where most of the students are from rural areas and receive education in the city due to the scarcity of educational institutions in the countryside. However, Gurung *et al.*, (2020) had similar findings to our study, in which the vast majority of students (91%) were from urban areas.

According to demographic data results in present study, the educational stage of study participants were three stages of 4^{th}, 5^{th}, 6^{th} according to Iraqi education system (internationally 10^{th} to 12^{th}) stage. Nebhinani *et al.*, (2013) applied same selection for high school stages which varied from 10^{th} grade until the stage twelve. Nevertheless, another Indian researcher included four stages of secondary education starting from 9^{th} stage (Kaur *et al.*, 2018).

In relation to educational levels of participants' parents, this study showed that fathers' educational achievements were (34%, 18%, 17% and

12%) for academic level, intermediate school, read and write and primary level, respectively. While, the least proportion were for higher education and secondary level. However, mothers' educational achievement was fairly different in which most of mothers were (14%) read and write only or intermediate school graduate (14%) and (21%) completed institute or college, this makes sense because females in Iraq had less chances than males in completing higher education especially in former decades due to customs and traditions of society, the lack of awareness about the importance of female education, poor Iraqi education system and political instability (wars).

Furthermore, current findings revealed that the job status of fathers in the total sample of the study ranged about seventy percent equally for employees or workers in the private sector (35% for each), the percentage of the unemployed fathers reached (15%). This may be considered a normal matter, where most Iraqis either working in governmental jobs or in private business, and not forgetting the increase in the unemployment rate in the last decade.

Additionally, vast majority of students' mothers (70%) were housewives, and (22%) were employed, there is no surprise in this result because majority of women in the Arab countries, particularly Iraq, are housewives (Al-Tameemi and Khudair, 2016).

Tan *et al.*, (2018) results of program on substance abuse revealed that mostly parent's education was secondary school. Also, Siddiqui and Salim, (2016) reported same previous finding.

Saudi Arabian researchers contrast with above results regarding mothers and fathers educational level in which majority of mothers were illiterate and fathers varied between illiterate and secondary school, While agreed present outcome regarding occupation of father and mother, which

majority of fathers were employed and mothers were housewives. (Salim and Siddiqui, 2015).

The percentage of economic status of participants' families was even for barely enough or enough income levels (almost 44%) for both, But this finding may be overestimated, and the current result is due to a small, non-random sample, and according to the evidences, the percentage of poverty and unemployment is on the increase in our society, and therefore most Iraqi families are of a medium or limited income level. According to the report issued by the Ministry of Planning and Development in Iraq in the 2021, the Iraqi per capita GDP (gross domestic product) decreased during the past year, compared to the preceding one, as a result of the economic downturn due to the Covid-19 pandemic, not to mention the rentier economy (MOP, 2021). Likewise, Prema, (2018) revealed that most of participants were from good or low level of income. Moreover, Ihunanya *et al.*, (2020) find that (79%) of students were from middle income families.

Bhattarai and Chudal, (2018) disagreed with current study, they reported that the majority of students were from low or poor income levels, this might be due to high number of poor families in India.

Related to smoking habits among participant students' one fifth of them reported that they are cigarette smokers (an indication for presence on substance abuse of nicotine), but (80%) were not smoking. This fact supported by survey applied in Iraq regarding substance abuse (including tobacco) which (23%) of population surveyed were smokers (INL, 2015). But according to the results of the existing study, two thirds of the students were from families in which some relatives are smokers.

Of course, with regard to the result about the consumption of alcohol by the participants in the study or even some of their relatives (approximately 10%), it was expected that the answer would be limited due to the sensitivity of the question posed (embarrassing), because drinking alcohol is forbidden

in Islam and is associated with stigma, especially in southern Iraq, or because the study is not a survey (a small sample size) thus results cannot be generalized because it is quasi-experimental.

With respect to the previous information about drug addiction or abusing substances (figure 4.1 and 4.2), only (10%) of participants reported that they not having some information toward study topic. In detail, for total control and study group (70 students) social media and mass media are tha main sources of information which took very higher percentage of responses (41%) and (38%), respectively. Similar results reported by Vinish and Prasad, (2018), in which more than 70% of students said that they were having previous information on this issue.

Whereas, for each of (relative and family source of previous information) or (friends') the percentage was (22% for each one). As observed, the frequency of responses is more than the number of students because each student can choose more than one response. While health workers and teachers occupied the lowest percentage ever, as they are supposed to be the essential source of safe and useful information for the students. This indicates the impact of modern technologies on the spread and increase in the possibility of adolescent students being exposed to drug abuse or addiction.

Also, Vinish and Prasad, (2018) found that the mass media, parents and friends are the most common sources of information reported by students.

5.2. Distribution of high school students according to their knowledge and attitude toward drug abuse and addiction (in the Pre-Test):

Regarding the discussion of the study domains, there were no adequate educational program studies detailing the results of the domains, and most

of them were limited to mentioning general knowledge and attitudes without addressing the details. Therefore, assessment studies were used to discuss the domains in the previous stage of the program (pre-test).

During this section domains of knowledge, overall knowledge and attitudes toward drug addiction of high school students' control and study group in (Pre-test) will be discussed (Table 4.4).

In detail, the responses of study and control group to the first domain which includes concepts of drug addiction and substance abuse was fair (28%, 68%) with mean score (1.39, 1.41), respectively.

Correspondingly, the second, third and fourth domains (general information on drug addiction, physical and psychological effects of substance abuse) had fair assessment for both study and control groups.

The domain of social and economic effects of addiction on drugs (5^{th} domain) revealed different assessment by control and study group in which the study group had fair knowledge (62%) with mean score of (1.62) and the control group showed good assessment (89%) concerning this domain with mean of score (1.83). The control group expressed fair assessment (68%) toward tobacco and alcohol abuse (M.S. 1.57), in addition the study group mean of score was 1.46 with fair assessment (60%). Furthermore, both groups revealed fair knowledge for treating and preventing measures of drug addiction.

The overall knowledge of study and control group of high school students exposed fair assessment (54%, 71%) with means of scores (1.47, 1.54) correspondingly for study and control group. But, the attitude responses of students in Pre-test toward drug addiction were positive with mean of score (3.44, 77%)) for study group and (3.58, 94%) for control group.

According to above mentioned findings the knowledge of high school students who participated in study in both groups was fair and inadequate which indicates that students' answers about having prior knowledge and information on the topic of research may be inaccurate or as a result of obtaining false information from reliable sources, especially the social media, in addition to the lack of official awareness programs on such topics due to their sensitivity and lack of acceptance by society.

Unexpectedly, the results of the attitudes toward addiction for both groups were positive, which indicates that the students do not have an orientation towards drug abuse for now, but it is not sufficient to prevent them from falling into the trap of addiction due to insufficient knowledge.

Yadav and Parajuli, (2021) conducted a research to assess students' knowledge about substance abuse in Nepal, and agreed with current results for domain of physical effects which (55%) of participant had fair information and disagreed in light of psychological effects which reported that (77%) of students had good knowledge, however, concerning social and economic effects the students of showed poor knowledge.

Similarly, Vinish and Prasad, (2018) assessed adolescent students' knowledge regarding substance abuse and addiction and for each of domains they found the following outcome, for concepts of abusing and addicting to drugs findings was similar to current study which more than half of students showed good knowledge on concepts of substance misuse. Also, Vinish and Prasad, (2018) agreed with present findings regarding general information, physical and psychological effects of drug addiction in which majority of students reported moderate knowledge. Also, regarding total knowledge about 51% of adolescent students revealed moderate knowledge which is steady with present study findings.

Furthermore, Nebhinani *et al.*, (2013) disagreed with present study and reported high knowledge level in assessment study among high school students regarding substance misuse general information, its physical impacts on health and social effects of addiction, besides their results showed negative attitude responses for drug abuse.

With regard to domain of tobacco and alcohol abuse Kiaee *et al.*, (2019) reported that in prior program conduction students showed that overall knowledge on tobacco smoking was poor in pre- exam (mean 8.07). Also, Atoyebi and Atoyebi, (2013) reported that students in assessment study revealed poor knowledge on tobacco (32%) while regarding alcohol use effects only (25%) had good information.

These findings disagreed by Nigerian study conducted by Ihunanya *et al.*, (2020), which reported that teenage students had good knowledge regarding substance abuse (87%) with mean (19.55), but the finding by same researcher was consistent with current study pre-test findings in overall attitudes in which (96%) of adolescent students had positive attitude toward study issue with mean of (44.9). A study inconsistent with current attitude results by Atoyebi and Atoyebi, (2013) found that more than two-third of students had negative attitudes on substance abuse.

5.3. Knowledge and attitude of high school students toward drug addiction and substance abuse (over pre-test, post-test I and post-test II):

In this section of the total knowledge levels of study and group students and their attitudes toward substance addiction and abuse over the first, second and third tests of study will be discussed.

Regarding the initial Pre-test (Table 4.3), (54%) of study group respondents had fair knowledge to addiction with mean of (1.47), similarly the control group had fair knowledge regarding drug addiction (about 71%).

Furthermore, in the (Post-test I) of study, (Table 4.7) the control group remained fair knowledge toward drug addiction with a slight increase in mean of knowledge (1.59) with percent of (57%) and (37%) for fair and good knowledge, respectively; due to limit increase of correct responses for control post-1 compared to pre which was (20%) in first assessment and become (37%) in second test. This might relate to reading on this topic after 1st test but the increase was not significant (as will be discussed in next sections of this chapter) and control group remained with fair knowledge. But the study group knowledge had significant change after performing program sessions, which the knowledge become good with mean of score (1.80) and good responses among high school students of this group was (80%) indicating that program increased the knowledge levels.

Moreover, (Table 4.10) the third phase of program (2nd Post-test), revealed that study group knowledge remained good (91%) with slight increase of mean (1.86), but the control group knowledge was steady at fair (80%) assessment with decreasing in the mean of knowledge (1.50), leading to fact that despite of minor changes in control group mean but their knowledge totally not changed, where the opposite to study group occurred.

In respect for attitudes of respondents of both study group and control group were positive toward refusing addiction in Pre-exam with percentage and mean score of (77%, 3.44) for study and (94%, 3.58) for control group.

For the (1st-Post) program assessment, also attitudes of both groups were positive with difference in mean and percentage of students' response regarding positive or negative attitude, which the study group had (100%) of positive attitude response with mean of (4.57), while control group had (94%) of positive trend with mean of (3.63).

As for the third stage of the study (2nd Post), the results showed that the trends of the study group remained at the level of (100%) of the positive

attitude, while the control group, despite the fact that its general attitudes towards addiction remained positive, but it was noted that the number of responses at the positive level decreased to (88%) with mean of (3.6).

A recent study, by Gurung *et al.*, (2020) performed a knowledge increasing program with a single study group, and discovered that students in pretest had 0% good total knowledge with nearby 70% poor knowledge assessment and enhanced to 58% fair and 37% good, this results disagreed with present work where the study group transferred from moderate to good knowledge, this might be due to different circumstances, different society and study design applied compared to the current study.

Anju and Rajamani, (2019) conducted an education program and found steady results with contemporary study, in which the total knowledge of adolescent pupils was moderate for control and study groups (80%, and 83%), respectively. And after conducting program the control group information remained fair (86%) with slight increase same as current findings and the experiment group knowledge increased to good level (83%).

Other studies conducted only one group approach in research (only study or experiment group). For instance, Naseemullah *et al.*, (2019) used study group over two test and their results found that student of high schools included in study had moderate knowledge (nearby 54%) and good knowledge in posttest (76%), which is consistent to compare with current work where study group showed (54%) fair knowledge in pre assessment and (80%) good in post-exam results.

Correspondingly, Naseemullah *et al.*, (2019) reported that students knowledge for domains like concepts of drug misuse was (61%) poor and increased to (69%) good in post results, while present work showed that students from group of study had fair knowledge and become good after program (94%). Naseemullah *et al.*, (2019) findings concerning physical

effects of addiction was (63%) poor in pre and become (72%) good after study, this is comparable to present study which (48%) of high school students had fair knowledge and increased to good (54%). For treatment and prevention current study revealed that study group had 60% between fair and poor knowledge and turned to 89% good this is also similar to what expressed by Naseemullah *et al.*, (2019), where (42%) of students showed good knowledge in pre. phase while it became 75% good after the second test.

Another researchers, Kaur *et al.*, (2018) which applied teaching program with only experiment group on student adolescents knowledge and attitude toward drug abuse, and their findings showed that total knowledge of student was (60%) moderate and (40%) poor in initial test and improved to 76% moderate and 24% good knowledge in 2nd examination , while the attitudes was 73% positive in pre and improved to 100% positive in second test, this findings are strongly associated and similar to existing results where after program also the study groups showed good knowledge assessment for (80%) with no poor knowledge and thus the attitudes turned to 100% positive in the first post- exam.

5.4. Discussion of the importance of educational program:

Through this section, the importance of the educational program will be discussed and whether it is necessary to implement it or not.

According to (Tables 4.11, 4.12) by comparing overall knowledge and attitudes of control group with study group through two tailed independent t-test in each phase of study independently, the outcome revealed no significant difference between mean of control and study group for both knowledge and attitude toward drug addiction at (P value > 0.05), which indicates a necessary need for applying program because the knowledge of both control and study group had no differences in their knowledge and attitudes regarding substance abuse at base level of study. This interpretation

supported by Gopi and Deepa, (2017) which stated that the lack of knowledge in pretest confirms the need to apply educational program for knowledge and attitude upgrading.

While, the test for both group in second phase and third phase showed significant difference (p-value ≤ 0.05) due to applying program, which highlights importance of program to increase knowledge and improve attitudes of high school students enrolled to the current study.

5.5. Discussing the effectiveness of education program in improving knowledge and attitudes of high school students participated in program:

According to outcomes of ANOVA repeated measure, revealed that a significant difference among overall level of knowledge of the study group occurred (Tables 4.27, 4.28 and figure 4.10) at three phases of examination (1^{st}, 2^{nd} & 3^{rd} test) which (F=91.56, and P.value 0.001) whereas directs to fact that study group revealed good knowledge in the second and third test compared to pre-program test. And according to effect size of Cohen's and observed power ranking the program had acceptable moderate effectiveness (d=0.574) on high school students' knowledge levels in study group besides that the observed power of intended exam to measure the effectiveness of program was powerful (1.00) (Wuensch, 2019). This leads to that program was effective in informing participants toward drug addiction and needs more development and application on larger group at different circumstance to get larger effect.

While, the results of program effectiveness toward drug abuse and addiction attitude (Tables 4.29, 4.30 and figure 4.11) indicated that the program was effective in improving study group's attitude in positive direction (F=205.202, p.value=0.001) over study's three tests (from low to high positive attitudes), and the observed power of study tool in measuring effectiveness of program was powerful, besides the size of effect of program

in improving attitudes toward issue under study was medium but higher than program knowledge effectiveness (d=0.751).

However, in light of abovementioned results the program achieved attended objectives toward knowledge and attitudes of participants students of study group. Similarly, Tan *et al.*, (2018) found significant difference in knowledge not in three test but over four tests (p. value = 0.001) but the Cohen's size effect (d) showed large effect contrary to what found in current program, also they found that attitudes had significant changes in two domains in post 2 and 3 and other four domains of attitude were significant at all four phases but in contrast with current study the effectiveness of program on attitudes was small (d=0.20).

Likewise, Iranian study of drug abuse prevention program by Ghojavand and Ramesh, (2014) conducted containing study and control group over two test (before-after program sessions) supported current finding regarding post program enhancement at p.value (0.001) for both knowledge and attitudes.

In fact, few studies used 3 phase educational program with two groups (study & control) toward drug addiction knowledge, while most programs satisfied with a study group with two stages of testing using paired t-test to measure their program effectiveness.

For instance, Theou, (2015) significant knowledge improvement on post exam (p.value < 0.001), indicating effectiveness for program in increasing students knowledge and attitudes.

Arevian and Khasholian, (2014) applied educational program by only two test one group study and the paired t-test revealed that program did not make significant changes in overall knowledge (p-value=0.112) and only domain of drug knowledge improved, and the program was effective in drug refusal behavior (p.value=0.028), however their program was not effective in knowledge improvement.

Gurung *et al.*, (2020) applied an educational program on school adolescence and used paired t-test for one study group of two-phase exam to improve knowledge regarding substance abuse and expressed significant knowledge enhancement at p.value (0.001). Other, researcher, like Hansadah and Sonalika, (2018) also insured current study fact that educational program will increase students' knowledge on substance abuse which found that their study is effective at p.value (0.001). Prema, (2018) also agreed to this results where the program was highly effective at high significant p.value (<0.0001).

Many researches have not been found to prove the failure of educational programs in increasing knowledge and improving students' attitudes towards drug addiction and abuse. On the contrary, many researchers have shown improvement in knowledge and attitudes, ranging from medium to high effectiveness. For example, Naseemullah *et al.*, (2019) find noteworthy increasing in knowledge (*P*= 0.001), while another consistent findings by Anju and Rajamani, (2019) showed high significant knowledge improvement which p-value was(< 0.0001) according to t-test.

A study done in Turkey on training program for preventing general addiction (technology, tobacco, alcohol and drugs), expressed that the knowledge levels and attitudes direction had meaningful differences between pre- and post-test with p.value (0.001), but size effect was less than moderate according to Cohen's *d* size of effect (*d < 0.5)*. These, results means that every program even at low effect size on study group it changes knowledge and attitudes to better level (Büyüköztürk *et al.*, 2019).

Regarding effectiveness of current program on domains of this study (Tables 4.17, 4.19, and 4.21), the results of repeated measures of ANOVA exposed that there was significant modification and improvement in students' knowledge regarding study domains this finding is consistent with a Palestinian study done by Makhamra, (2018) and used one way ANOVA,

in which revealed significant changes in high school students knowledge on domains of physical, psychological, and sociological effects of drug addiction with p. value less than 0.05.

5.6. Discussing the relationships between socio-demographic characteristics of study group with their knowledge and attitudes toward drug addiction in 1st post-test:

With respect to current findings (Table 4.31) there was no significant relationships found between knowledge of study group in first posttest with their characteristics (age, stage of school, residency, parents' educational achievement, and family income), except the occupational status of father (x^2 =11.77, df=4) with P.value of 0.01.

The absence of a relationship between the demographic characteristics of the participants in the study and their information after applying the program may be considered positive, meaning that the program was the only influence on students' knowledge about drug addiction without the presence of an external influence that may cause bias and preference for some in obtaining better results. A relationship with the father's occupation may give an indication that the financial comfort of the family may play a role in obtaining a better education.

For relationship of study group attitudes with their socio-demographic characteristics all respondents had positive attitude thus all categorize had same response so chi square test did not apply.

In contrast, a study done by Gopi and Deepa, (2017) found significant relationship between knowledge of students to substance and alcohol abuse with their socio-demographic characteristics except, fathers education, age and stage of school.

Iraqi research, conducted in Kurdistan region had consistent findings with present study, in which no significant relation was appeared among program's post-test knowledge with participants socio-demographics (Mahmood *et al.*, 2018).

Consistently, Gurung *et al.*, (2020) agreed with existing outcome, where no significancy in relationships found between study group post test and their demographic variables.

Most of the studies missed discussing the personal information of people with their acquaintances and only mentioned some descriptive data about the participants in the study or discussed the relationships of pre test with sociodemographic characteristics.

5.7. Discussing the correlation between domains of knowledge, overall knowledge and total attitudes for study group 1st posttest:

Regarding correlation between domains of knowledge, total knowledge and total attitudes the attitude of study group in post test one (Table, 4.32) was positively correlated with all knowledge domains and total knowledge, this may be related to increase in knowledge toward addiction after educational sessions which in turn improves students' attitudes of study group, this means that there is a direct relationship between knowledge and attitudes.

This findings supported by Kaur *et al*., (2018) in which attitudes of studied group was positive in initial test and improved toward high positive in the second exam, in relation to increasing total knowledge among adolescent students with significant (p.value = 0.001).

Also, the overall knowledge of study group was significantly correlated with overall attitudes.

Chapter Six

Conclusions and Recommendations

Chapter Six

Conclusions and Recommendations

Throughout this chapter of the current dissertation, the conclusions that reached after the application of the current program and considered most important will be addressed, and recommendations of interest to several sides regarding the issue of drug addiction and abuse will be mentioned.

6.1. Conclusions:

1- More than half of students included in present study were female gender .

2- The mean of age of high-school students varied between 17 and 18 years old for control and study groups, respectively.

3- The prominent source of previous information reported by students on drug addiction was social-media.

3- The results of students' knowledge regarding drug addiction and substance abuse in pre-test phase was fair for two groups, besides there was no significant difference among two groups knowledge at pre-test level.

4- The attitudes of student participants at pre-test level were positive, with no significant variances between both groups.

5- The total knowledge of students about substance abuse and addiction in the two-post exams, for the study group, was good knowledge whereas the other group (control) remained at the same knowledge levels, with a significant difference in knowledge among the two groups.

6- The overall students' attitude toward drug addiction and substance abuse in 1st and 2nd posts-Program tests were positive with an increase in the positivity of study group attitudes, while the control group sustained a positive attitude with little deterioration in the third test.

7- The level of educational achievement of students' fathers was associated significantly with high school students' knowledge and attitude toward drug addiction and substance abuse, for a study group at the 1st post-program assessment.

8- Positive correlation between the students' knowledge of the study group regarding drug addiction with their attitudes in the first post-test was found.

9- The program was effective in improving high-school students' knowledge and attitudes toward substance abuse and drug addiction, and there was a significant difference (in knowledge and attitude) between students who attended the program sessions (study group) comparing to those who did not attended program sessions (control group).

6.2. Recommendations:

1- Calling for the adoption of the current program with further modifications and subsequent studies on it, according to what suits the circumstances and needs of students at the high school stage and applying it in future for students by direct attendance when the current pandemic conditions end.

2- Working on conducting awareness campaigns in high- schools by the Ministry of Education in cooperation with the Ministries of Health and Higher Education to educate students, teachers, and even their families, about the physical and psychological health risks and the social and educational consequences, for drug addiction and abuse.

3- Urging school administrations to communicate with student's parents when they discover signs of drug addiction or substances abuse and directing them to the correct solutions to resolve the problem, through the presence of a health counselor (nurse) in each school (activating school health services).

4- Conducting mandatory training courses on substance misuse or addiction, not for students, but for teachers as well, in order to prepare teachers to perform the role of direct education for their students, in other words, training of trainers or educating the educators (TOT).

5- Inviting the Ministry of Health to cooperate with the Ministry of Education, in the process of conducting field surveys for detecting high risk students who abuse or are addicted to drugs (screening). as well as, acting to expose the risky behaviors that may lead to substance addiction, thus acting to solve them through appropriate programs and strategies.

6- Establishing specialized centers for the treating and rehabilitating of addicted persons (psychologically, socially, and physically aspects), exceptionally for adolescents, in all cities of the state via the relevant

authorities, particularly the Ministry of Health in joining with the Ministry of Labor and Social Affairs.

7- Encouraging academics, researchers, and public and community health personnel (nurses and physicians) to conducting public education regarding impacts of drug addiction and abuse by using mass media such as T.V. or social media applications, which are the most effective way, to interact and communicate healthy knowledge for youth.

8- Including educational materials about this health problem, substance abuse health effects, causes and prevention in the curriculum of adolescent school students.

9- Encouraging high school levels students to engage in sports, artistic and scientific activities, by conducting sporty activities, art galleries, and cultural festivals for them by school administrations, to fill their spare time, which is a risk factor of addiction.

10- Cooperating with religious and spiritual institutions because of their strong influence on society, in order to clarify the religious stance against addiction and thus strengthen the psychological deterrent to prevent young people from engaging in such practices that are destructive to their health, environment, and society.

11- Strengthening the role of school health through training and cooperating with teachers of biology as a focal point.

12- anti tobacco smoking campaign are essential in high schools.

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Appendices

Appendix A - Administrative Arrangements.

Appendix B - (1) English and Arabic Questionnaire.

(2) Constructed program in Arabic.

Appendix C - Panel of Experts.

Appendix D – Extra Tables and figures.

السيد المعاون العلمي المحترم

السيد رئيس الفرع .....المحترم

اللجنة العلمية والأخلاقيات المحترمون

م\ اخلاقيات البحث

يرجى التفضل بالموافقة على عرض موضوع (الماجستير\ الدكتوراه) على اللجنة العلمية والاخلاقيات البحث العلمي عن موضوع رسالتي \ اطروحتي الموسومة باللغة العربية ..... فعالية برنامج تعليمي على معارف و اتجاهات طلبة الاعدادية نحو الإدمان في مدينة النجف الاشرف

واللغة الإنكليزية..... Effectiveness of Educational program upon high-school students' Knowledge and attitudes toward addiction in Al-Najaf Al-Ashraf City.

مع التقدير

اسم الطالب وتوقيعه..حسين منصور علي

اسم المشرف وتوقيعه..أ.د.أمين عجيل ياسري الياسري

رئيس الفرع وتوقيعه.....

اللجنة العلمية والأخلاقيات

توصي اللجنه باكمال إجراءات البحث اعلاه

أ.م.د. حسين جاسم

أ.م.د. عبد المهدي عبد الرضا

أ.م.د. عماد هادي

أ.م.د.ندى خزعل

م.د.سلمى كاظم

رئيس اللجنه

الدكتور
حسام عباس داود
معاون العميد لشؤون الطلبة والدراسات العليا
المعاون العلمي

Ministry of Higher Education and Scientific Research
وزارة التعليم العالي والبحث العلمي
University of Babylon
College of Nursing
جامعة بابل
كلية التمريض
لجنة الدراسات العليا

العدد : ٧٨٧
التاريخ : ١٥/ ٣ /٢٠٢٠

Ref. No. :
Date: /

(العمل الطوعي مسؤولية الجميع لبناء العراق)

الى / مديرية التربية/ النجف الأشرف
م/ تسهيل مهمة

تحية طيبة :

يطيب لنا حسن التواصل معكم ويرجى تفضلكم بتسهيل مهمة طالب الدكتوراه (حسين منصور علي عايش) لغرض جمع عينة دراسة الدكتوراه والخاصة بالبحث الموسوم :

فعالية برنامج تعليمي على معارف و اتجاهات طلبة الاعدادية نحو الادمان في مدينة النجف الاشرف .

Effectiveness of Educational Program Upon High-school Students' Knowledge and Attitudes Toward Addiction in AL-Najaf AL-Ashraf City .

مع الاحترام ...

الدكتور
حسام عباس داود
معاون العميد للشؤون العلمية والدراسات العليا
١٥/ ٣/٢٠٢٠

صورة عنه الى //
- مكتب السيد العميد للتفضل بالاطلاع مع الاحترام .
- لجنة الدراسات العليا مع الأوليات .
- الصادرة .

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الى / ادارات مدارس الاعدادي للبنين / للبنات مركز النجف
م/ تسهيل مهمة

تحية طيبة .....
يرجى تسهيل مهمة الباحث(حسين منصور علي) للغرض استكمال مشروع بحث للموضوع (فعالية برنامج تعليمي على معارف واتجاهات طلبة الاعدادية نحو الادمان في مدينة النجف الاشرف) وزيارة مدارس الاعدادي للبنين والبنات في مركز النجف الاشرف لاستكمال مشروع بحث الدكتوراه الخاص به مع التقدير .

علي حسين والي
مديرقسم الاعداد والتدريب
٢٠٢٠ /٧/ ١٩

نسخه منه !!
- قسم الاعداد والتدريب / شعبة البحوث والدراسات مع الاوليات .
- الحفظ

العنوان / العراق – النجف الاشرف – شارع الكوفة البريد الالكتروني / ALNAAJAFEDU@YAHOO.COM ص.ب (٥٨٧) هاتف ٠٣٣-٣٦٤٥٢٢

Ministry of Higher Education and Scientific Research
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University of Babylon
College of Nursing
جامعة بابل
كلية التمريض
لجنة الدراسات العليا

Ref. No. :
Date:
العدد :
التاريخ :

الى / جامعة بابل - كلية التربية الأساسية- قسم اللغة الأنكليزية

م/ مقوم لغوي

تحية طيبة :

يرجى التفضل بتحديد عضو هيئة تدريس في كليتكم لغرض تقويماطروحة الدكتوراه للطالب (حسين منصور علي عايش) والموسومة بـ :

فعالية برنامج تعليمي على معارف و اتجاهات طلبة الاعدادية نحو الادمان في مدينة النجف الاشرف .

Effectiveness of Educational Program Upon High-school Students' Knowledge and Attitudes Toward Addiction in AL-Najaf AL-Ashraf City .

مع الاحترام ...

أ.م.د. حسام عباس داود
معاون العميد للشؤون العلمية والدراسات العليا
/ ٧/ ٢٠٢١

صورة عنه الى //
- مكتب السيد العميد للتفضل بالاطلاع مع الاحترام .
- لجنة الدراسات العليا
- الصادرة .

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جامعة بابل
كلية التربية الاساسية
شعبة الشؤون العلمية

العدد : ٦٣٣٧
التاريخ: ٢٠٢١/٧/٢٩
Ref. No.:
Date: / /

الى/ جامعة بابل/ كلية التمريض/ لجنة الدراسات العليا

نهديكم أطيب التحيات ...

م/ تقويم لغوي

كتابكم ذو العدد٢٢٠٤ في٢٠٢١/٧/٢٦، نعيد اليكم اطروحة طالب الدراسات العليا/ الدكتوراه (حسين منصور علي) والموسومة بـ(فاعلية برنامج تعليمي على معارف و اتجاهات طلبة الاعدادية نحو الادمان في مدينة النجف الاشرف) بعد تقويمها لغوياً واسلوبياً من قبل (م.د.احمد روضان سلمان) وهي صالحة للمناقشة بعد الأخذ بالملاحظات المثبتة على متنها.

للتفضل بالتسلم ... مع الاحترام

المرافقات //
- اطروحة دكتوراه.
- إقرار المقوم اللغوي.

حسين منصور علي
٢٠٢١/٧/٢٩

أ.د. أسامة عبد الكاظم مهدي
معاون العميد للشؤون العلمية
٢٠٢١/٧/

نسخة منه الى //
- مكتب السيد العميد المحترم ...للتفضل بالاطلاع مع الاحترام.
- م.د.احمد روضان سلمان .. للعلم لطفاً.
- الشؤون العلمية.
- الصادرة.

هاله

العراق - بابل - جامعة بابل
بدالة الجامعة ٠٣٥٧٤٤٠٠٩٦٤٧٢٣
مكتب العميد ١١٨٤
المعاون العلمي ١١٨٨
المعاون الاداري ١١٨٩
وطني ٠٧٢٣٠٠٣٥٧٤٤
امنية ٠٧٦٠١٢٨٨٥٦٦
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Questionnaire about knowledge of and attitude toward drug addiction and substance abuse

Socio-demographic information of participants and previous information

First part: Socio-Demographic Data of Students and Previous information:

Socio-Demographic Data

A- Gender Male ☐ Female ☐

B- Residency Rural ☐ Urban ☐

C- Age ☐

D- Grade 4th ☐ 5th ☐ 6th ☐

E- Educational level of the Fathers:

1 Illiterate ☐
2 Read and write ☐
3 Primary school ☐
4 Intermediate school ☐
5 Secondary school ☐
6 Institute / college ☐
7 Higher studies (M.Sc., Ph.D.) ☐

F- Educational level of the Mothers:

1 Illiterate ☐
2 Read and write ☐
3 Primary school ☐
4 Intermediate school ☐
5 Secondary school ☐
6 Institute / college ☐
7 Higher studies (M.Sc., Ph.D.) ☐

G- Occupational status of the Fathers:

1 Employed ☐
2 Self-employed ☐
3 Retired ☐
4 Clerk ☐
5 Un-employed ☐

H- Occupational status of the Mothers:

1 Employed ☐
2 Self-employed ☐
3 Retired ☐
4 Housewife ☐

I- Monthly income of the family:

Enough ☐ Barely enough ☐ Not enough ☐

J- Are you smoking cigarette? Have you ever tried smoking cigarettes?

Yes ☐ No ☐

K- Is there any smokers in your family or your friends?

Yes ☐ No ☐

L- Did you drink alcohol?

Yes ☐ No ☐

M- Is there any one in your family or your friends, who drinks alcohol?

Yes ☐ No ☐

Previous information:

N- Do you have previous information about addiction and substance abuse (drugs, tobacco and alcohol)?

Yes ☐ No ☐

*If your answer is **Yes**, please choose the source of information from the following list:*

1 Teacher ☐
2 Family member or relatives ☐
3 Friends ☐
4 Health personnel ☐
5 reading and Mass media (TV, radio, newspapers and books) ☐
6 Social media (Facebook, twitter, Instagram, etc…) ☐

Second part – Knowledge about Drug Addiction and Substance Abuse

Note: choose only one answer for each of the following questions:

First domain – perception about drug addiction and abuse concepts

1- What the word addiction means to you?

a- Excessive intake of drugs, alcohol and other substances.

b- Experience of pleasure when addictive substance is present.

c- Physio-psychological dependence on psychoactive substance.

d- Experience of pleasure when substance removed.

2- Higher incidence of addiction found in which age group?

a- Adulthood.

c- Only Schoolchildren.

b- Younger adults and schoolchildren.

d- Elderly and adults.

3- Addiction disorder is considered as:

a- Mental and behavioral disorder.

c- Mood disorder.

b- Physiological disorder.

d- Just a sociological problem.

4- physical dependence on a substance is known as....:

a- Addiction

c- Abuse

b- Withdrawal

d- Relapse

5-What does illicit drugs mean? Choose the best answer

a- Illegal substances that effect central nervous system.

b- Legal substances that either stimulate or inhibit the central nervous system.

c- Non-Medical substances used for illegal and wrong purposes.

d- Drugs and substances used for pleasure purposes.

6-Which statement is true about term substance abuse?

a- It refers to the hazardous use of psychoactive substances

b- There is no difference between substance addiction and abuse.

c- Psychoactive issues has no relation to substance abuse

d- It refers to the dependence on psychoactive substances

Second domain - general information about drugs (opioid, cannabis, cocaine and amphetamine) addiction and abuse:

7- What do we mean by opioids?

a- Opioids are illegal drugs and used by people for inappropriate purposes.

b- Opioids are class of illegal drugs used only for pain.

c- Opioids are substances or drugs used for medical and non-medical purposes.

d- Opioids are drugs used for medical purposes.

8- Which is the correct and legal way to obtain opioid medicine:

a- Pharmacy and hospitals.

b- Medical prescription.

c- Peddler.

d- Supermarket.

9- Medically for which reason opioids and cannabis drugs used?

a- For pain management.

b- For high blood pressure.

c- For allergy treatment.

d- For DM control.

10- Following medicines are opioids, except:

a- Tramadol

b- Methadone

c- Fentanyl

d- Acetaminophen

11- Signs and Symptoms of Opioid Abuse may be:

a- Physical, Behavioral, Cognitive and Psychosocial.

b- Only Physical and Psychological symptoms.

c- Physical, Behavioral and learning disorder.

d- Behavioral and Cognitive symptoms.

12- Opioids are substances founded as following:

a- Only naturally founded in plants.

b- Chemically synthesized or naturally found.

c- Three types natural, chemical or semi-synthesized.

d- Only it is manufactured from chemical materials.

13- In which forms, Opioids or other drugs are created for consumption?

a- Tabs and injectable Solution

b- Only in Powder form.

c- Injectable and drinkable solution.

d- Tabs, powder and solution.

14- It is in the stimulants group, mostly used by soldiers to face their tiredness and anger that is called "war anger". They are known by different names including Cristal:

a- Ecstasy

c- Cocaine

b- Amphetamine

d. Cannabis

15- Extracted from leaves of a plant that is naturally seen in the mountains of some of the states of South America such as Bolivia, Colombia, and Peru State. Physicians and dentists use this material for local anesthesia:

a- Cocaine

c- Alcohol

b- Heroin

d- Cannabis

16- The medications that physician prescribe for diseases like anxiety, sadness, and insomnia are called:

a- Suppressant

c- Anesthesia drugs

b- Pain killer

d- Antidepressants

17- A plant that is grown wildly. Makes some people anxious and freaky in such away they think that all people are against them:

a- Cocaine

c- Alcohol

b- Heroin

d- Cannabis

Third domain – The physical effects of addiction and drug abuse:

18- Opioid withdrawal signs and symptoms includes following, except:

a- Insomnia, anxiety, irritability and muscle spasm.

b- Digestive problems, such as vomiting or diarrhea.

c- Isolating oneself from friends or family members.

d- Hair loss, peptic ulcer, allergy and dry skin.

19- How addictive drugs considered to affect human body:

a- It only has a depressing effect on the human nervous system.

b- Two types are either stimulating and inhibiting the human nervous system.

c- It only has a stimulating effect on the human nervous system.

d- The human nervous system is not related to the issue of addiction.

20- What is the statement that accurately reflects the events of people suffering from addiction and drug abuse? Choose the most correct one

A-Accidents, injuries and emergency hospitalization.

b- Poor performance at school and society.

c- Ethical problems with family, friend and relatives.

d- Many such as physical, emotional, legal and social problems.

21- A non-comfortable physical and psychological situation that happens to those who quit drugs, is called:

a- Addiction

c- Quarrel

b- Tolerance

d- Withdrawal

22- A physiological change that is happed to those who use drugs, is called:

a- Quarrel

c- Withdrawal

b- Addiction

d- Tolerance

Fourth domain - the psychological effects of addiction and substance abuse:

23- The psychological effects of opioid addiction is:

a- Only frightening hallucination and false beliefs.

b- Complete or partial loss of memory and libido.

c- Hallucination, mood alteration and social problems.

d- Only mood swings.

24- A stimulant substance causes a hallucination

a- Ecstasy

c- Alcohol

b- Heroin

d- Cocaine

25- Chronic drug abusers, rottenly engage in which type of activities?

a- Problem solving activities.

c- Deviant, delinquent and violent activities.

b- Devotional activities.

d- Normal activities.

26- What are the psychological signs of inhalational addiction?

a- Anxiety and irritability.

c- Tremors.

b-Breathlessness and increased heart rate.

d- Permanent madness.

27- The psychological symptoms of withdrawal of inhalation addiction is:

a- Depression and hangover.
b- Excessive sleep.
c- Good orientation and speech.
d- Extreme agitation, anxiety and hallucination.

28- What is the best treatment for opioid and other drug dependence?

a- Quitting immediately from drugs.

b- Only gradually reducing the amount of drugs.

c- Rest and fluid besides psychological support.

d- Counseling, proper medication and psychological support.

Fifth Domain - Social and Economic Effects of Drug Addiction and Substance Abuse:

29- In the community, what social place do addicted people hold?

a- A decent position.
c- Isolated place.
b- Natural place.
d- Leader place.

30- The society with elevated numbers of addicted people usually suffers from: <u>Choose the most correct statement</u>

a- healthily problems only.

b- Mostly, political problems.

c- Economic, social and healthily problems.

d- Economic and social problems.

31- What are the social consequences for addiction and substance abuse?

a- disruptive family structure, antisocial behavior.

b- Decreased crime and school absenteeism.

c- Good peer relationship with educational problems.

d- Decreased social and learning problems

Sixth domain – Other substances abuse knowledge (tobacco and alcohol).

32- Which of the following is not a mechanism through which smoking increases risk for heart disease?

a- Nicotine increases heart rate and blood pressure

b- Nicotine contributes to the development of atheroma
c- Nicotine causes red blood cells to be deformed and carry less oxygen
d- Nicotine increases the risk of thrombosis

33- Individuals amongst which socio-economic group are most likely to be successful at stopping smoking?

a- There is no difference in cessation success across the social classes

b Lower socio-economic groups

c- People who are in long term unemployment

d- Higher socio-economic groups

34- Chemicals from which of the following substances are found in cigarettes?

a- Rocket Fuel and Nail Polish Remover

b- Candle Wax and Rechargeable Batteries

c- Lighter Fluid and Toilet Cleaner

d- All of the above

35- Which one of the following is likely to be the most effective at helping smokers quit?

a- Group behavioral therapy

b- Self-help materials

c- Opioid antagonists (such as naltrexone)

d- Antibiotics

36- What is the dark sticky substance produced when tobacco burns?

a- Tar

b- Hydrochloride acid

c- Mucus

37- What is a dangerous, colorless, and odorless gas produced by cigarettes?

a- Carbon monoxide

b- Hydrogen

c- Oxygen

d- Carbon dioxide

38- Cigarette contains more 4000 chemical materials including poisonous material like ammonia, however, the main guilty person is …… this ingredient is a strong addictive.

a- Tar

b- Carbon monoxide

c- Methanol

d- Nicotine

39- The person who is dependent to alcohol is called:

a- Drunk

c- Getting used to or accepting it.

b- Withdrawal

d- Alcoholism

40- Alcohol abuse and addiction to it cause the following health problems, except

a- Type I diabetes (juvenile)

c- Oesophageal cancer, stroke and epilepsy.

b- Cirrhosis of the liver

d- Behavioural problems (aggression)

41- Which of the following is considered disadvantages of alcohol?

c- Able to control muscle movement

A- Violence and inability for decision-making

d- Ecstasy feeling and sleeping

b- Full consciousness

Seventh domain – Knowledge of causes, prevention and treatment of drug addiction and substance abuse:

What are the possible reasons that leads to substance abuse and drug addiction?			**No**	**Uncertain**	**Yes**
Causes	**42**	Curiosity			
	43	Peer pressure			
	44	Recreation			
	45	Release of anxiety and tension			
	46	Frustration			
	47	Lack of peace in family			
	48	Poor performance in study			
What are the prevention measures for substance abuse and drug addiction?			**No**	**Uncertain**	**Yes**
Prevention	**49**	Social and health awareness education programs			
	50	Close and effective parental supervision			
	51	Involvement in sports and social activities			
	52	Avoiding physical and mental punishment by adults			
	53	Resist peer pressures (avoiding bad friends)			
		Is there any treatment for addiction?	**No**	**Uncertain**	**Yes**
Cure	**54**	Completely curable			
	55	Not curable			

Third part – Attitudes (affective, cognitive and behavioral) towards drug addiction and substance abuse. Notice (mark only one field for each question)

Appendix (B) ***English Questionnaire***

N	Questions	Strongly disagree	Disagree	Uncertain	Agree	Strongly agree
1	I think, it is crucial to learn about addiction effects on our daily life.					
2	I think learning about substance abuse is so complicated and difficult.					
3	I feel uncomfortable to sit beside the student was a drug addict.					
4	I don't mind trying to drink alcohol and smoke tobacco					
5	I tend to watch TV programs about smoking and alcohol abuse.					
6	I believe that addicted persons are prone to violence.					
7	I think smoking cigarettes or shisha makes me look like a strong man					
8	As a student, I refuse to befriend smokers.					
9	Teaching about addiction and smoking risks should be included in curriculum.					
10	I think it is okay to befriend colleagues who are addicted to alcohol.					
11	I believe addicts should be isolated from society rather than helping them.					
12	If I have knowledge about addiction, I will inform my friends about its risks.					
13	If I know that one of my friends is misusing analgesic drugs, I will ignore it.					
14	I believe occasional use of illicit drugs is not dangerous.					
15	I personally see drug addicts more as criminal than victims.					
16	Drug addicts really scare me.					
17	Teenagers who end up with substance abuse have only themselves to blame.					
18	Smoking tobacco and drinking alcohol is not dangerous to health.					
19	I think drug users are a burden on society.					
20	Alcoholism is associated with weak will.					
21	My friends accept me better when smoking cigarette.					
22	I am not interested to read about drug abuse on social media.					
23	I do not see a problem to buy painkillers without a prescription					
24	I feel hatred towards addicted people					
25	I think that addiction problem is curable.					
26	I believe exposure to cigarette smoke from someone else is bad for my health					

استبيان حول معارف واتجاهات الطلبة نحو الإدمان على المخدرات تعاطيها

الجزء الأول: البيانات الاجتماعية والديموغرافية للطلاب والمعلومات السابقة:

البيانات الاجتماعية والديموغرافية

أ- **الجنس** ذكر ☐ انثى ☐

ب- **السكن** ريف ☐ مدينة ☐

ت- **العمر** ☐

ث- **المرحلة في الاعدادية** رابع ☐ خامس ☐ سادس ☐

ج- **المستوى التعليمي للأب:**

٨ أمَي لا يقرأ و لا يكتب ☐
٩ يقرأ و يكتب ☐
١٠ مدرسة ابتدائية ☐
١١ مدرسة متوسطة ☐
١٢ مدرسة اعدادية ☐
١٣ كلية او معهد ☐
١٤ دراسات عليا (ماجستير او دكتوراه) ☐

ح- **المستوى التعليمي للأم:**

٨ أمَي لا يقرأ و لا يكتب ☐
٩ يقرأ و يكتب ☐
١٠ مدرسة ابتدائية ☐
١١ مدرسة متوسطة ☐
١٢ مدرسة اعدادية ☐
١٣ كلية او معهد ☐
١٤ دراسات عليا (ماجستير او دكتوراه) ☐

خ- **الوضع المهني للآب:**

٦ موظف ☐
٧ اعمال حرة ☐
٨ متقاعد ☐
٩ رجل دين ☐
١٠ عاطل عن العمل ☐

د- الوضع المهني للأم:

٥ موظفة ☐

٦ اعمال حرة ☐

٧ متقاعدة ☐

٨ ربة بيت ☐

ذ- الدخل الشهري للأسرة:

يكفي ☐ بالكاد يكفي ☐ لا يكفي ☐

ر- هل تدخن السجائر؟ هل جربت تدخين السكائر سابقا؟

نعم ☐ كلا ☐

ز- هل هنالك مدخنون في عائلتك أو أصدقائك؟

نعم ☐ كلا ☐

س- هل شربت الكحول سابقا؟ أم أنك تشرب الكحول؟

نعم ☐ كلا ☐

ش- هل يوجد فرد في عائلتك أو أصدقائك ، يشرب الكحول ؟

نعم ☐ كلا ☐

المعلومات السابقة:

ص- هل لديك معلومات سابقة عن الإدمان وإساءة تعاطي المواد (العقاقير المخدرة والتبغ والكحول)؟

نعم ☐ كلا ☐

إذا كانت إجابتك نعم ، فيرجى اختيار مصدر المعلومات من القائمة التالية:

٧ المدرس ☐

٨ افراد العائلة او الأقارب ☐

٩ الأصدقاء ☐

١٠ الكوادر الصحية ☐

١١ القراءة ووسائل الإعلام (التلفزيون ، الراديو والصحف والكتب) ☐

١٢ وسائل التواصل الاجتماعي (الفيسبوك، تويتر، إينستاجرام، الخ ...) ☐

الجزء الثاني ـ المعارف حول إدمان المخدرات وتعاطي المخدرات والمواد المخدرة
ملاحظة: اختر إجابة واحدة فقط لكل سؤال من الأسئلة التالية :

المجال الأول ـ الإدراك حول مفاهيم إدمان المخدرات وتعاطيها

١ -ماذا تعني كلمة إدمان بالنسبة لك؟

أ-الإفراط في تناول المخدرات والكحول والمواد الأخرى.

ب- خوض تجربة والتفاخر بين الشباب.

ج ـ الاعتماد الفسيولوجي النفسي على مواد ذات التأثير النفساني.

د- تجربة اللاوعي عند تعاطيها.

٢ ـ ارتفاع معدل الإدمان وجدت في أي فئة عمرية؟

أ- سن الرشد.

ب- الشباب الأصغر سناً وأطفال المدارس.

ج- تلاميذ المدارس فقط.

د- كبار السن والبالغين.

٣ ـ يعتبر اضطراب الإدمان:

أ- اضطراب عقلي وسلوكي.

ب- اضطراب فسيولوجي.

ج- اضطراب المزاج.

د- مجرد مشكلة اجتماعية

٤ -الاعتماد الجسدي على مادة ما يعرف بـ:

أ- الإدمان

ب- الانسحاب

ج- سوء المعاملة

د- الانتكاس

٥ ـ ماذا تعني العقاقير غير المشروعة؟ اختر أفضل اجابة

أ- ادوية غير القانونية (محظورة) التي تؤثر على الجهاز العصبي المركزي.

ب ـ الادوية القانونية التي تحفز أو تثبط الجهاز العصبي المركزي.

ج ـ المواد غير الطبية المستخدمة لأغراض غير مشروعة وخاطئة.

د- المخدرات والمواد المستخدمة لأغراض الاستمتاع.

٦ -ما هي العبارة الصحيحة حول إساءة استخدام المواد المخدرة (التعاطي)؟

أ- يشير إلى الاستخدام الخطير للمواد ذات التأثير النفساني

ب- لا يوجد فرق بين الإدمان وإساءة استخدام المواد (التعاطي).

ج ـ القضايا ذات التأثير النفساني لا علاقة لها بتعاطي المخدرات.

د- يشير إلى الاعتماد على المواد ذات التأثير النفساني.

المجال الثاني ـ معلومات عامة عن المخدرات و المواد (الأفيونية والقنب والكوكايين والأمفيتامين) إدمانها و تعاطيها:

٧ -ماذا نعني بالمواد الأفيونية؟

أ- الأفيونيات هي فقط مخدرات غير شرعية ويستخدمها الناس لأغراض غير ملائمة.

ب- الأفيونيات هي فئة من الأدوية غير القانونية تستخدم فقط للألم.

ج - المواد الأفيونية هي مواد أو أدوية تستخدم للأغراض الطبية وغير الطبية.

د- الأفيونيات هي أدوية تستخدم للأغراض الطبية.

٨ -ما هي الطريقة الصحيحة والقانونية لحصول المريض على الادوية المسكنة للآلام التي قد تحوي مواد أفيونية؟

أ- الصيدلة والمستشفيات. ج- بائع متجول.

ب- وصفة طبية. د- سوبر ماركت.

٩ -طبياً لأي سبب تستخدم المواد الأفيونية ومخدرات القنب؟

أ- لعلاج الألم. ج - لعلاج الحساسية.

ب - لارتفاع ضغط الدم. د- للسيطرة على مرض السكري.

١٠- الأدوية التالية هي أفيونيات، باستثناء:

أ- الترامادول ج - الفنتانيل

ب- الميثادون د- البراسيتامول

١١ -علامات وأعراض تعاطي الأفيون قد تكون:

أ- بدنية وسلوكية ومعرفية ونفسية اجتماعية. ج - اضطراب فيزيائي وسلوكي وتعليمي.

ب- أعراض جسدية ونفسية فقط. د- أعراض سلوكية وإدراكية

١٢ -المواد الأفيونية هي مواد وجدت على النحو التالي:

أ- بشكل طبيعي فقط في النباتات. ج- ثلاثة أنواع طبيعية أو كيميائية أو شبه مركبة.

ب - توليفها كيميائيا أو عثر عليها بشكل طبيعي. د- يتم تصنيعها فقط من مواد كيميائية.

١٣- في أي أشكال، يتم إنتاج المواد الأفيونية أو غيرها من المخدرات للاستخدام؟

أ- حبوب. ج- محاليل عن طريق الحقن أو الشرب.

ب- فقط على شكل مسحوق. د- حبوب، مسحوق ومحاليل

١٤- ضمن مجموعة المنشطات، وغالبًا ما يدمنه الجنود لمواجهة التعب والغضب الذي يطلق عليه "غضب الحرب". وهو معروف بأسماء مختلفة بما في ذلك الكرستال:

أ- النشوة ج - الكوكايين

ب- الأمفيتامين د. القنب (الحشيش)

١٥ -مستخرج من أوراق نبات يتم رؤيته بشكل طبيعي في جبال بعض ولايات أمريكا الجنوبية مثل بوليفيا وكولومبيا ودولة بيرو. يستخدم الأطباء وأطباء الأسنان هذه المواد للتخدير الموضعي:

أ- الكوكايين ج- الكحول

ب- الهيروين د- القنب

١٦ -الأدوية التي يصفها الطبيب لأمراض مثل القلق والحزن والأرق تسمى:

أ- ادوية كابته ج- أدوية التخدير

ب- المسكنات د- مضادات الاكتئاب

١٧ -نبات ينمو بكثافة. يجعل بعض الناس يشعرون بالقلق والفزع بحيث يعتقدون أن جميع الناس ضدهم:

أ- الكوكايين ج- الكحول

ب- الهيروين د- القنب (الحشيش)

المجال الثالث - الآثار الجسدية للإدمان وإساءة استخدام العقاقير:

١٨ - تضم علامات وأعراض الانقطاع عن المواد الأفيونية ما يلي، <u>ماعدا</u>:

أ- الأرق والقلق والتهيج وتشنج العضلات. ج- عزل النفس عن الأصدقاء أو أفراد الأسرة.

ب - مشاكل في الجهاز الهضمي، القيء أو الإسهال. د- تساقط الشعر والقرحة والحساسية وجفاف الجلد.

١٩ -كيف يؤثر الادمان على المخدرات على جسم الإنسان:

أ- لها تأثير مثبط على الجهاز العصبي البشري. ج- له تأثير محفز فقط على الجهاز العصبي البشري.

ب- هناك نوعان إما يحفز ويثبط الجهاز العصبي البشري. د- لا علاقة للجهاز العصبي البشري بقضية الإدمان.

٢٠ -ما هي العبارة التي تجسد بشكل دقيق الأحداث التي يتعرض لها الأشخاص الذين يعانون من الإدمان و تعاطي المخدرات؟ <u>اختر الاصح</u>

أ- الحوادث والإصابات ودخول المستشفى في حالات الطوارئ.

ب - الأداء الضعيف في المدرسة والمجتمع.

ج - المشكلات الأخلاقية مع الأسرة والأصدقاء والأقارب.

د- العديد من المشاكل الجسدية والعاطفية والقانونية والاجتماعية.

٢١ -يسمى الوضع البدني والنفسي غير المريح الذي يحدث لأولئك الذين يتركون المخدرات فجأة ب:

أ- الإدمان ج - تشاجر

ب- التحمل د- الانقطاع

٢٢ -التغيير الفسيولوجي الذي يحدث لأولئك الذين يتعاطون المخدرات، يسمى:

أ- مشاجرة ج - الانقطاع

ب- الإدمان د- التحمل

المجال الرابع - الآثار النفسية للإدمان وإساءة استخدام العقاقير:

٢٣ -الآثار النفسية للإدمان على المواد و المخدرات الأفيونية هي:

أ- الهلوسة المخيفة والمعتقدات الخاطئة فقط. ج- الهلوسة وتغيير المزاج والمشاكل الاجتماعية.

ب- فقدان كلي أو جزئي للذاكرة والغريزة الجنسية. د- تقلب المزاج فقط.

٢٤ - مادة منشطة تسبب الهلوسة:

أ- النشوة ج- الكحول

ب- الهيروين د- الكوكايين

٢٥ - المدمنون، ينخرطون في أي نوع من الأنشطة؟

أ- أنشطة حل المشكلات. ج- الأنشطة المنحرفة والاجرامية والعنيفة.

ب- الأنشطة التعبدية. د- الأنشطة العادية.

٢٦ -ما هي العلامات النفسية للإدمان على المواد المستنشقة؟

أ- القلق والتهيج. ج- الرعاش.

ب - ضيق التنفس وزيادة معدل ضربات القلب. د- الجنون الدائم

٢٧ -الأعراض النفسية للانقطاع (الانسحاب المفاجئ) في الإدمان على المخدرات المستنشقة هي:

أ- الاكتئاب وصداع الكحول. ج - حسن التوجيه والكلام.

ب- النوم المفرط. د- الانفعال الشديد والقلق والهلوسة

٢٨- ما هو أفضل علاج للإدمان على العقاقير والمخدرات الأفيونية وغيرها؟

أ- الإقلاع فورا عن المخدرات.

ب- فقط تقليل كمية المواد تدريجيا.

ج- الراحة والسوائل إلى جانب الدعم النفسي.

د- الاستشارة العلاجية والأدوية المناسبة والدعم النفسي.

المجال الخامس - الآثار الاجتماعية والاقتصادية للإدمان على العقاقير وإساءة استخدام المواد المخدرة:

٢٩- ما المكانة الاجتماعية للمدمنين في المجتمع؟

أ- مكانة مرموقة. ج- مكانه منعزلة.

ب- المكانة الطبيعية للفرد. د- مكانه قيادية.

٣٠ -المجتمع الذي فيه اعداد كبيرة من المدمنين عادة يعاني من: <u>اختر العبارة الاصح</u>

أ- مشاكل صحية فقط. ج- المشكلات الاقتصادية والاجتماعية والصحية.

ب- في الغالب مشاكل سياسية. د- المشكلات الاقتصادية والاجتماعية.

٣١ -ما هي العواقب الاجتماعية للإدمان وإساءة استخدام المواد المخدرة؟

أ- تخريب البنيان الأسري والسلوك المعادي للمجتمع. ج- علاقة جيدة بالزملاء والمشكلات التعليمية.

ب- تدني الجريمة والتغيب عن المدرسة. د- انخفاض المشكلات الاجتماعية والتعليمية.

المجال السادس – المعارف حول الإدمان او تعاطي المواد الأخرى (التبغ والكحول).

٣٢- أي مما يلي لا تعتبر آلية يزيد من خلالها التدخين خطر الإصابة بأمراض القلب؟

أ- يزيد النيكوتين من معدل ضربات القلب وضغط الدم

ب- يساهم النيكوتين في تطور تصلب الشرايين

ج- يتسبب النيكوتين في تشوه خلايا الدم الحمراء فتحمل كمية أقل من الأكسجين

د- النيكوتين يزيد من خطر تجلط الدم

٣٣- الأفراد من أي طبقة اجتماعية من المحتمل أن يكونوا ناجحين في الاقلاع عن التدخين؟

أ- لا فرق في نجاح الإقلاع عن التدخين بين الطبقات الاجتماعية

ب- المجموعات الاجتماعية والاقتصادية الأدنى

ج- الأشخاص الذين يعانون من بطالة طويلة الأجل

د- المجموعات الاجتماعية والاقتصادية العليا الاغنياء

٣٤- أي من المواد الكيميائية التالية موجودة في السجائر؟

أ- وقود الصواريخ ومزيل طلاء الأظافر

ب- دهن الشموع والبطاريات القابلة لإعادة الشحن

ج- المبيض (قاصر) ومنظف المرحاض (عملاق)

د. كل ما ورد اعلاه موجود

٣٥- أي من الأمور التالية من المحتمل أن تكون الأكثر فعالية في مساعدة المدخنين على الإقلاع عن التدخين؟

أ- العلاج السلوكي الجماعي

ب - مواد المساعدة الذاتية

ج- مضادات الأفيون (مثل النالتريكسون)

د- المضادات الحيوية

٣٦- ما هي المادة اللزجة الداكنة الناتجة عند حرق التبغ؟

أ- القطران

ب- حمض الهيدروكلوريد

ج- المخاط

د- القاصر

٣٧- ما هو الغاز الخطير، عديم اللون، والرائحة التي تنتجها السجائر؟

أ- أول أكسيد الكربون

ب- الهيدروجين

ج- الأكسجين

د- ثاني أكسيد الكربون

٣٨- تحتوي السيجارة على أكثر من ٤٠٠٠ مادة كيميائية بما في ذلك المواد السامة مثل الأمونيا، ومع ذلك، فإن العنصر الرئيسي المذنب هو .....، فهذا المكون هو مسبب للإدمان بشكل قوي على التبغ.

أ- القطران

ب- أول أكسيد الكربون

ج - الميثانول

د- النيكوتين

٣٩- الشخص الذي يعتمد على الكحول يسمى:

أ- في حالة سكر.

ب- الانسحاب

ج- متعود عليها.

د- مدمن على الكحول

٤٠- ان تعاطي الكحول والادمان عليه، يسبب المشاكل الصحية التالية، ما عدا:

أ- السكري من النوع الأول (الأحداث)

ب- تليف الكبد

ج - سرطان المريء والسكتة الدماغية والصرع.

د- المشكلات السلوكية (العدوان)

٤١ -أي مما يلي يعتبر من مساوئ الكحول؟

أ- العنف وعدم القدرة على اتخاذ القرارات.

ب - الوعي شبه الكامل.

ج - المقدرة على السيطرة على حركة العضلات.

د- الشعور بالنشوة والشعور بالنعاس.

المجال السابع ـ المعارف حول الأسباب والوقاية والعلاج من إدمان وتعاطي المخدرات

		ما هي الأسباب المحتملة التي تؤدي إلى إساءة استخدام العقاقير المخدرة وإدمان المخدرات؟	نعم	غير متأكد	كلا
الأسباب	٤٢	الفضول			
	٤٣	تأثير الاقران من الطلبة			
	٤٤	التسلية			
	٤٥	التنفيس عن القلق والتوتر			
	٤٦	الإحباط			
	٤٧	الافتقار الى الاستقرار الأسري			
	٤٨	الأداء الضعيف في الدراسة			
		ما هي التدابير الوقائية لتعاطي وإدمان المخدرات والعقاقير والمواد؟	**نعم**	**غير متأكد**	**كلا**
الوقاية	٤٩	برامج التوعية الاجتماعية والصحية			
	٥٠	إشراف الوالدين الوثيق والفعال			
	٥١	المشاركة في الأنشطة الرياضية والاجتماعية			
	٥٢	تجنب العقاب البدني والعقلي من قبل البالغين			
	٥٣	مقاومة ضغوط الأقران (تجنب الأصدقاء السيئين)			
		هل هناك أي علاج للإدمان؟	**نعم**	**غير متأكد**	**كلا**
العلاج	٥٤	قابل للشفاء تماما			
	٥٥	غير قابل للعلاج			

الجزء الثالث - الاتجاهات (العاطفية، المعرفية والسلوكية) نحو إدمان وتعاطي المخدرات
ملاحظة (ضع علامة على حقل واحد فقط لكل سؤال)

ت	الأسئلة	غير موافق بشدة	غير موافق	غير متأكد	موافق	موافق بشدة
٢٧	أعتقد أنه من الأهمية بمكان معرفة آثار الإدمان على حياتنا اليومية.					
٢٨	أعتقد أن التعلم عن تعاطي المخدرات معقد وصعب للغاية.					
٢٩	أشعر بعدم الارتياح للجلوس بجانب الطالب الذي كان مدمنًا على المخدرات.					
٣٠	لا مانع لدي من محاولة شرب الكحول وتدخين التبغ					
٣١	أنا أميل لمشاهدة البرامج المتلفزة حول التدخين وتعاطي الكحول.					
٣٢	أعتقد أن الأشخاص المدمنين عرضة للعنف.					
٣٣	أعتقد أن تدخين السجائر أو النارجيلة يجعلني أبدو كرجل قوي					
٣٤	كطالب، أنا أرفض إقامة علاقات صداقة مع المدخنين.					
٣٥	يجب تضمين التدريس حول مخاطر الإدمان والتدخين في المناهج الدراسية.					
٣٦	أعتقد أنه لا بأس من إقامة علاقات صداقة مع الزملاء المدمنين على الكحول.					
٣٧	أعتقد أنه يجب عزل المدمنين عن المجتمع بدلاً من مساعدتهم.					
٣٨	لو امتلكت المعارف حول الادمان لثقفت أصدقائي عن مخاطره.					
٣٩	لو علمت أن أحد أصدقائي يسيء استخدام العقاقير المسكنة، فسأتجاهل الامر.					
٤٠	أعتقد أن الاستخدام المتقطع للعقاقير غير المشروعة ليس بالأمر الخطير.					
٤١	أنا شخصياً انظر للمدمنين على انهم مجرمين أكثر من كونهم ضحايا.					
٤٢	مدمني المخدرات يخيفوني حقاً.					
٤٣	المراهقين الذين ينتهي بهم الأمر مع تعاطي المخدرات ليس عليهم سوى لوم أنفسهم.					
٤٤	إن تدخين التبغ وشرب الكحول لا يشكلان خطرا على الصحة.					
٤٥	أعتقد ان المدمنين هم عالة على المجتمع.					
٤٦	انا اعتقد بأن الإدمان على الكحول يرتبط بالإرادة الضعيفة					
٤٧	أصدقائي يتقبلونني بشكل أفضل عند تدخين السجائر.					
٤٨	انا لست مهتما بالقراءة عن تعاطي المخدرات والعقاقير على وسائل التواصل الاجتماعي.					
٤٩	لا أرى مشكلة في شراء المسكنات بدون وصفة طبية.					
٥٠	أشعر بالكراهية تجاه المدمنين.					
٥١	أعتقد أن مشكلة الإدمان هي قابلة للعلاج.					
٥٢	أعتقد أن التعرض لدخان السجائر من شخص آخر أمر سيء لصحتي.					

وزارة التعليم العالي والبحث العلمي

جامعة بابل / كلية التمريض

فعّالية برنامج تعليمي على معارف واتجاهات طلبة الإعدادية نحو الإدمان في مدينة النجف الأشرف

اعداد الطالب

حسين منصور علي التميمي

اشراف

ا.د أمين عجيل ياسر الياسري

ا.د قحطان هادي حسين الجبوري

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الجزء الثالث	الغرض من البرنامج	
الجزء الرابع	مفاهيم ادمان المخدرات وتعاطي المخدرات	
٢.	المحاضرة الثانية	
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محتويات المحاضرة

المحاضرة الأولى

الجزء الأول: نبذة عن برنامج

الجزء الثاني: أهداف برنامج

الجزء الثالث: الغرض من البرنامج

الجزء الرابع: مفاهيم ادمان المخدرات وتعاطي المخدرات

الوسائل التعليمية:

أ. أسلوب إلقاء المحاضرة والمناقشة من خلال تطبيق منصة الزوم.

ب. عرض فيديوهات توضيحية.

ج. استعمال البوربوينت والانترنت.

تاريخ المحاضرة: ٢٠٢٠/١٠/١٤ الساعة الثامنة مساءا

مدة المحاضرة: ٤٠ دقيقة

نبذه عن برنامج: هذا البرنامج هو جزء من أطروحة دكتوراه تحاول تسليط الضوء على مشكلة الإدمان على المخدرات ولاسيما لدى الشباب والطلبة في مرحلة الإعدادية. لذا سيتم تزويد الطلبة المشاركين بالدراسة بمختلف المعارف المتعلقة بالإدمان على المخدرات وتأثيراتها وأسبابها والوقاية منها وكذلك علاجها.

حيث تعد مشكلة الادمان على المخدرات من المشاكل المعقدة التي تواجه المجتمعات في الوقت الحاضر، لما لها من اثار سيئة على مستوى الفرد والاسرة والمجتمع، ويكتسب البحث الحالي وزنه من اهمية مرحلة الشباب، لما لها دور فاعل في بناء وتنمية المجتمع، ولا سيما الطلبة الذين هم عماد المستقبل والطاقة الاساسية في التقدم الحضاري، وان الارشاد الوقائي لم يحظ باهتمام الدراسات الارشادية لا في العراق ولاسيما في مجال الادمان على المخدرات.

أهداف برنامج

الهدف العام: أن الهدف العام من هذا البرنامج التثقيفي هو من أجل زيادة معارف وتحسين اتجاهات الطلبة في مرحلة الدراسة الاعدادية حول تعاطي وادمان المخدرات.

الأهداف الخاصة: في نهاية البرنامج سيصبح الطلبة قادرين على:

١- تعريف مفهوم المخدرات والإدمان عليها.

٢- التمييز بين مصطلحي الإدمان وتعاطي المخدرات.

٣- معرفة أنواع المواد المسببة للإدمان تبعا لتأثيرها على الجهاز العصبي والدماغ.

٤- معرفة التأثيرات الجسدية لأهم المواد المسببة للإدمان.

٥- التمييز بين مصطلحي التحمل والانسحاب.

٦- معرفة التأثيرات النفسية والعقلية والعاطفية للمخدرات على الإنسان.

٧- معرفة التأثيرات الفردية والعائلية والاجتماعية والاقتصادية لتعاطي وإدمان لمخدرات.

٨- معرفة الاثار الجسدية والنفسية لتعاطي الكحول.

٩- معرفة الأضرار الجسدية لتدخين التبغ وما يحتويه من النيكوتين.

١٠- معرفة الأسباب التي تؤدي بالشباب للإدمان.

١١- معرفة اهم النصائح والارشادات وطرق الوقاية من الإدمان.

١٢- معرفة أساليب علاج الإدمان.

١٣- تحسين اتجاهات الطلبة (مواقفهم) نحو رفض تعاطي المخدرات او ادمانها بناءاً على المعارف المكتسبة.

<u>الغرض من البرنامج:</u>

هنالك اهتمام متزايد على المستوى الدولي وكذلك المنظمات العالمية بقضية وقاية الشباب واجيال المستقبل من المخاطر الكثيرة المحيطة بهم. حيث السعي الحثيث لإعداد اجيال متعلمة وسليمة صحيا ونفسيا وجسديا واجتماعيا. ومن المنطلق الواقعي فأن اطفال المدارس بمختلف اعمارهم هم جيل المستقبل الذي تنعقد عليه امال الشعوب والامم لديمومتها وتطورها وحمايتها ولاسيما من خطر شديد كالإدمان على المخدرات التي لا تفتك بالفرد نفسه بل تؤثر على عائلته وبيئته ومجتمعه. لذا من الاهمية تعليم وتثقيف اجيال المستقبل نحو اضطراب ادمان المخدرات حيث أن البيئة التي يتواجدون فيها بما فيها المدرسة، فيها الكثير من العوامل التي قد تدفع بهم نحو هاوية الإدمان كرفاق السوء (الاقران) وايضا الضغوط الاجتماعية والنفسية ولاسيما في مرحلة المراهقة والشباب المبكر قبيل دخول الحياة الاكاديمية الجامعة. ***لذا ينطلق البرنامج الحالي من مبدأ الوقاية خير من العلاج علما ان الوقاية هو المستوى الأول من مستويات الرعاية التمريضية في صحة المجتمع.***

مفاهيم إدمان المخدرات وتعاطي المخدرات

أظهرت دراسة استقصائية أجريت في عام ٢٠١٣ بأن تدخين التبغ يتبعه الكحول، ثم الأدوية المهدئة والمسكنة للألم، ثم المخدرات غير القانونية كانت أهم الأدوية والمواد التي تم تعاطيها أو الإدمان عليها في العراق.

ويعتبر تعاطي المخدرات هو مصدر قلق لصحة المراهقين. وغالبًا ما يعتقد المراهقون أن المواد التي تغير الحالة المزاجية تخلق شعورًا بالرفاهية أو تحسن مستوى الأداء. لوحظ ارتفاع معدل إدمان لدى البالغين الأصغر سنا والفئات العمرية لأطفال المدارس.

تعرف المخدرات حسب منظمة الصحة العالمية بأنها كل المواد التي تستخدم في الأغراض غير الطبية ويكون من شأن تعاطيها تغيير الوظائف للجسم والعقل ويؤدي الافراط في تناولها الى حالة من التعود والإدمان، بالإضافة للآثار الجسمية والنفسية والاجتماعية.

غالبا ما يستخدم مصطلح تعاطي المخدرات والإدمان على المخدرات بشكل متبادل. بينما واقعا، يختلف الأشخاص المدمنون على المواد والأشخاص الذين يتعاطون المواد عن بعضهم البعض. في حين أن كليهما لهما آثار ضارة على حياة الفرد، فإن معرفة الفرق بين التعاطي مقابل الإدمان سيساعدك على فهم الموقف وعلاجه. أولئك الذين يتعاطون المخدرات والكحول لا يزالون يسيطرون على حياتهم، في حين أن أولئك الذين يعانون من الإدمان لديهم مرض يؤثر على العديد من جوانب حياتهم.

الإدمان هو "مرض انتكاسي مزمن، يتميز بالبحث القهري عن المخدرات واستخدامها، على الرغم من العواقب الوخيمة والخطيرة، وتغييرات طويلة الأمد في الدماغ" وبعبارة أخرى، فإن الإدمان يعني الاعتماد النفسي - الفيزيائي على مادة ذات التأثير النفسي. بالإضافة إلى ذلك، يعتبر اضطراب الإدمان اضطراب عقلي وسلوكي. والمواد ذات التأثير النفساني هي الأدوية أو المواد الكيميائية التي تغير وظائف المخ والجهاز العصبي.

الفرق بين ادمان المخدرات وتعاطي المخدرات

الإدمان	***التعاطي***
اضطراب مزمن متكرر الانتكاس يتسم بالسعي القهري للمخدرات واستخدامها على الرغم من معرفة العواقب السلبية الناجمة عنها ويتصف بفقدان القدرة والتحكم بكمية المادة التي يتعاطاها. (مرحلة لاحقة للتعاطي)	استخدام المواد ذات التأثير النفسي (المخدرات) لأغراض غير قانونية وليس لها علاقة بالدواء كما انه يتسم بامتلاك الشخص القدرة والتحكم في الكمية التي يتعاطاها. (تعتبر المرحلة السابقة للإدمان)

تشمل علامات الاعتماد على المواد ذات التأثير النفساني ما يلي:

١- زيادة كميات المواد المستخدمة، أو الاستخدام الممتد على مدى فترة أطول مما هو مقصود.
٢- الرغبة المستمرة للمادة أو محاولة فاشلة واحدة أو أكثر للسيطرة على استخدامه.
٣- زيادة الوقت الذي يقضيه في الحصول على آثار المادة أو استخدامها أو التعافي منها.
٤- أعراض التسمم أو الانسحاب المتكررة التي تتعارض مع الالتزامات.
٥- القضاء أو الحد من الأنشطة المهنية أو الاجتماعية أو الترفيهية الهامة نتيجة لتعاطي المخدرات.
٦- استمرار استخدام المادة على الرغم من المشاكل المتكررة الناجمة.
٧- زيادة التحمل لهذه المادة المدمنة.

تعاطي المخدرات يشير إلى الاستخدام الخطير للمواد ذات التأثير النفساني، وليس الاعتماد عليها. يُطلق عليها علمياً الاضطرابات المرتبطة بالمواد وتعرف بأنها أنماط غير مناسبة من تعاطي المخدرات مما يؤدي إلى ضعف أو ضائقة ويتجلى في معايير محددة على مدى فترة من الزمن.

تُعرَّف العقاقير غير المشروعة بأنها مواد امتلاكها غير شرعي، وإما ليس لها أي تطبيقات طبية ويمكن أن تشكل خطورة على الاستهلاك. أو المواد غير الطبية المستخدمة لأغراض غير قانونية وخاطئة، وهي شديدة الادمان وخطيرة للغاية. قد يتم تحويل المواد الطبية إلى مخدرات غير قانونية مثل الهيروين.

يحدث التحمل الدوائي عندما تكون هناك حاجة لجرعات أعلى من دواء لإنتاج نفس التأثير الذي تحقق مع استخدامه الأولي؛ وغالبا ما يرتبط التحمل مع الاعتماد.

ينطوي الانسحاب على تطوير مجموعة معقدة من الأعراض التي تحدث عند التوقف عن تعاطي المخدرات أو خفضها بشكل مفاجئ، وعادة ما تتميز بعدم الراحة الشديدة والألم والغثيان والقيء وربما التشنجات.

عرفت منظمة الصحة العالمية الانسحاب بأنه: مجموعة من الأعراض ذات تجمّعات متغيّرة ودرجات متغيرة من الشدة، تحدث عند التوقف عن – أو التقليل من – استعمال مادة ما من المواد نفسية التأثير، كانت تؤخذ بشكل متكرر، لفترة طويلة عادة و/أو بجرعات عالية. وقد تترافق المتلازمة بعلامات اضطراب فيزيولوجي. تعتبر متلازمة الانسحاب أحد مؤشرات متلازمة الاعتماد. كما أنها السمة المميزة للمعنى الفارماكولوجي النفسي الأضيق للاعتماد.

المحاضرة الثانية:

<u>الجزء الأول</u>: معلومات عامة عن المواد المسببة للإدمان

<u>الجزء الثاني</u>: التأثيرات الجسدية لإدمان وتعاطي المخدرات على جسم الإنسان

<u>الوسائل التعليمية:</u>

أ. أسلوب إلقاء المحاضرة والمناقشة من خلال تطبيق منصة الزوم.

ب. عرض فيديوهات وصور توضيحية.

ج. استعمال البوربوينت والانترنت.

<u>تاريخ المحاضرة</u>: ٢٠٢٠/١٠/١٧ الساعة الثامنة مساءا

<u>مدة المحاضرة</u>: ٤٠ دقيقة

معلومات عامة عن إدمان وتعاطي المخدرات (المواد الأفيونية والقنب والكوكايين والأمفيتامين):

عادة ما تكون المواد والعقاقير التي تسبب الإدمان من أصل نباتي أو كيميائي ، أو خليط من الاثنين معا ، وهما الأفيون والقنب والكوكايين والأمفيتامين والكحول والتبغ. العديد من العلاجات والأدوية المستخدمة لتخفيف الآلام أو التخدير أو العلاجات النفسية تأتي من هذه المواد. كذلك ، فإن الأدوية (المخدرات غير المشروعة) التي لا تستخدم في المجال الطبي والتي يتم استخراجها بشكل غير قانوني من هذه المواد ، بحيث يتم تحويل بعض العلاجات الطبية مثل المورفين إلى الهيروين ، على سبيل المثال.

لذلك، من الضروري تحديد هذه العقاقير والمواد المسببة للإدمان، سواء كانت قانونية (موصوفة) أو محظورة (غير مشروعة) من أجل امتلاك المعرفة اللازمة لتجنبها وتثقيف من حولنا بمخاطرها.

١ - المواد الأفيونية: تسمى أحيانًا المخدر (البنج):

الأفيون مخدر، مستخرج من نبات الخشخاش، ويستخدم لصنع الهيروين. وفقا لمصادر الأمم المتحدة، فإن أفغانستان هي الآن المصدر الأول للأفيون. أيضا، هناك أنواع مختلفة من الخشخاش.

عصير مادة الأفيون يسبب الإدمان. يتكون الأفيون عادة في قوالب أو عصي أو مخروط. وعلاوة على ذلك، أجود أنواعه اليوغسلافية لأنها تحتوي على نسبة عالية من مسكنات الألم المورفين. أنه يحتوي على قلويات مثل المورفين، الكودايين، الناركوتين والبابافارين. من المورفين، يتم إعداد الهيروين. يستخدم الأفيون في التخدير وكمسكن قوي للألم، خاصة في العمليات الجراحية والسرطانات، ولإيقاف الإسهال، ومادة الكودايين توقف السعال. بالإضافة إلى ذلك، يسبب الأفيون الهلوسة والإدمان.

هناك ثلاثة أنواع رئيسية من المواد الأفيونية :

١ -المواد الأفيونية الطبيعية وهي عبارة عن مركبات قلوية، تحتوي على النيتروجين والتي تحدث في نباتات مثل خشخاش الأفيون. وتشمل المواد الأفيونية الطبيعية المورفين والكوداايين والثيباين.

٢ -يتم إنتاج المواد الأفيونية شبه الاصطناعية / في مختبرات من المواد الأفيونية الطبيعية. وتشمل المواد الأفيونية شبه الاصطناعية الهيدرومورفون و الهيروين المصنوع من المورفين.

٣ -المواد الأفيونية التركيبية / الاصطناعية بالكامل وهي من صنع الإنسان بالكامل، بما في ذلك الميثادون، الترامادول.

عادةً ما يتم تصنيع الأدوية الأفيونية بأشكال متعددة للاستهلاك مثل الحبوب الباودر والمحاليل.

علامات وأعراض تعاطي المواد الأفيونية

في المراحل المبكرة من اضطراب استخدام المواد الأفيونية، غالباً ما يكون الناس قادرين على إخفاء تعاطيهم للمادة. ومع ذلك في النهاية، فإن علامات وأعراض التعاطي تبدأ في الظهور في حياتهم. على الرغم من أن علامات التعاطي الدقيقة تعتمد على نوع الافيون الذي يستخدم، إلا أن الأعراض الشائعة لإساءة استخدام المواد الأفيونية هي أعراض سلوكية وجسدية وإدراكية ونفسية واجتماعية.

٢ -القنب: بانجو ، الماريجوانا ، الحشيش ، إلخ.

الحشيش هو عشبة سنوية مزهرة منفصلة الجنس. القنب هو مصطلح عام يستخدم للدلالة على العديد من المستحضرات ذات التأثير النفساني لنبات القنب. بالإضافة إلى ذلك، هناك عدد من المركبات التي تم تحديدها مؤخرًا والتي تختلف من الناحية الهيكلية عن الحشيش، ومع ذلك تشترك في العديد من خصائصها الدوائية. يستخدم المصطلح المكسيكي "الماريجوانا" بشكل متكرر للإشارة إلى أوراق القنب أو غيرها من المواد النباتية الخام في العديد من البلدان. وتسمى النباتات الانثوية من القنب بالحشيش.

الحشيش يجعل بعض الناس يشعرون بالقلق والفزع بحيث يعتقدون أن جميع الناس ضدهم. القنب هو على نطاق واسع هو أكثر المخدرات غير المشروعة المزروعة التي يتم الاتجار بها وتعاطيها. نصف مضبوطات المخدرات في جميع أنحاء العالم هي مضبوطات القنب. كما أن الانتشار الجغرافي لتلك المضبوطات عالمي أيضًا ، حيث يغطي عمليًا كل بلد في العالم. يستهلك حوالي ١٤٧ مليون شخص ، أي ٢,٥٪ من سكان العالم ، الحشيش (معدل الانتشار السنوي) مقارنة بنسبة ٠,٢٪ التي تستهلك الكوكايين و ٠,٢٪ من الأفيونيات المستهلكة. في العقد الحالي، ازداد تعاطي القنب بوتيرة أسرع من

تعاطي الكوكايين والمواد الأفيونية. على الرغم من أن عدد مستهلكي القنّب أكبر من مستهلكي الأفيون والكوكايين ، فإن انخفاض أسعار الحشيش يعني ، من الناحية الاقتصادية ، أن سوق القنب أصغر بكثير من سوق الأفيون أو الكوكايين.

استخدامات القنب الطبية في تزايد، والاستخدام الأكثر شيوعا هو للألم والقلق والاكتئاب **طبعا تحت رقابة طبية مشددة**. تشير العديد من الأدلة إلى أن الحشيش قد يكون له آثار مضادة للاكتئاب لذا يدخل في صناعة الادوية النفسية. استخدام القنب له آثار نفسية قصيرة المدى على (العواطف، الحالة النفسية، والذاكرة) وآثار جسدية (العصبية، القلب والأوعية الدموية والشهية) على جسم الإنسان . الآثار طويلة الأجل لتعاطي القنب: تشمل أمراض الكبد والرئتين والقلب والبصر والأوعية الدموية ".

الاستخدامات العلاجية للقنب

وقد أظهرت العديد من الدراسات الآثار العلاجية للقنب في الغثيان والقيء في المراحل المتقدمة من الأمراض مثل السرطان والإيدز. الاستخدامات العلاجية الأخرى للقنب هي علاج الربو و المياه الزرقاء في العين (جلوكوما)، كمضاد للاكتئاب، منشط للشهية، مضاد للصرع ومضاد للتشنج، آثار القنب على وظيفة الجهاز الهضمي قد تحسن من القدرة على تخفيف الغثيان والقيء، **مع ذلك فإن تعاطي و ادمان هذه المواد دون سبب طبي سيكون له عواقب وخيمة على صحة الانسان جسديا و نفسيا**.

٣ -الأمفيتامينات:

الأمفيتامينات هي أدوية منشطة، مما يعني أنها تسرع نقل الرسائل التي بين الدماغ والجسم. بمعنى آخر، الأمفيتامينات تحفز الجهاز العصبي. يوجد الأمفيتامين ضمن مجموعة من المنشطات، التي يستخدمها الجنود في الغالب لمواجهة التعب والغضب الذي يطلق عليه "غضب الحرب". وهي معروفة بأسماء مختلفة بما في ذلك مخدرات الكريستال.

توصف بعض أنواع الأمفيتامينات قانونيا من قبل الأطباء لظروف علاج مثل اضطراب نقص الانتباه وفرط النشاط (ADHD) والخدار (حيث لدى الشخص رغبة ملحة لا يمكن السيطرة عليها للنوم). كما تم استخدام الأمفيتامينات لعلاج مرض باركنسون (الرعاش). أنواع أخرى من الأمفيتامينات يتم إنتاجها وبيعها بطريقة غير مشروعة، والشكل الأكثر قوة هو كريستال الميثامفيتامين.

يختلف شكل الأمفيتامينات. قد تكون هذه الأدوية على شكل مسحوق، أقراص، بلورات وكبسولات. الآثار السلبية لاستخدام منشطات الامفيتامين هي جسدية وسلوكية ومعرفية ونفسية.

٤ -الكوكايين:

يعتبر الكوكايين أقوى المنشطات الطبيعية. يتم استخراج الكوكايين من أوراق نبات يتم رؤيته بشكل طبيعي في جبال بعض ولايات أمريكا الجنوبية مثل بوليفيا وكولومبيا ودولة بيرو ، حتى في المناطق التي تكون فيها الزراعة غير قانونية.

يستخدم الأطباء وأطباء الأسنان هذه المواد للتخدير الموضعي ووقف نزيف الأنف ومراقبة الألم قبل جراحة الأنف الطفيفة. يمكن أن تتسبب سمية الكوكايين في الإثارة والسلوك العدواني والعداء والهلوسة والاختلاجات (نوبات الصرع) والحمى والموت.

مثل جميع الأدوية والمواد المسببة للإدمان، للكوكايين تأثيرات نفسية ومعرفية وسلوكية قوية على الأشخاص.

الآثار الجسدية لإدمان المخدرات وتعاطيها

هناك تأثيرات جسدية خاصة بكل نوع من أنواع المخدرات والعقاقير المحظورة، وهناك تأثيرات عامة سنتناولها أدناه. تؤثر الأدوية التي تسبب الإدمان على جسم الإنسان من خلال طريقتين إما تحفز أو تثبط الجهاز العصبي البشري. يواجه الأشخاص الذين يعانون من الإدمان وتعاطي المخدرات العديد من الأحداث مثل المشاكل الجسدية والعاطفية والقانونية والاجتماعية.

الآثار الجسدية الخاصة ل:

- المواد الأفيونية: الأعراض الجسدية تشمل تغييرات ملحوظة في المظهر الشخصي ، مثل فقدان الوزن أو تغيرات في النظافة أو الجرب أو القروح أو الجروح البليغة التي توحي باستخدام أدوية وريدية ، أو ضعف المهارات الحركة والتنسيق ، أو مشاكل في الجهاز الهضمي ، مثل القيء أو الإسهال ، والغثيان وتضيق بؤبؤ العين.

-الحشيش: ***آثار تعاطي الحشيش على المدى القصير:***

التأثيرات الجسدية: هي زيادة في معدل ضربات القلب، جفاف الفم، احمرار العينين، انخفاض الضغط داخل العين، استرخاء العضلات والإحساسبالبرودة او السخونة باليدين والقدمين.

ب - التأثيرات العصبية: مشاكل في التحكم في الحركة وتنسيق حركة الجسم؛ يرتبط أيضًا بالتغييرات في التعلم والذاكرة والتحكم في الإجهاد. الاستجابات العاطفية والمخاوف. يؤثر مع الأحاسيس الطرفية مثل الألم. والأحاسيس الحشوية مثل الغثيان والقيء. أظهرت التجارب على الأنسجة الحيوانية والبشرية تعطلًا في تكوين الذاكرة على المدى القصير. قد يتسبب تعاطي القنب في تطور مرض الزهايمر.

ج - التأثيرات القلبية الوعائية: يسبب احتشاء عضلة القلب والنوبات القلبية وأمراض الأوعية الدموية الطرفية الشبيهة بمرض بورغر (الالتهاب والتخثر (تجلط) الشرايين والأوردة الصغيرة والمتوسطة في اليدين والقدمين).

د- قد يؤدي الدمج مع أدوية أخرى وخاصة الكحول والنيكوتين إلى زيادة مخاطر التسمم.

هـ- الشهية الإلكترونية: يتم تأكيد الشعور بزيادة الشهية بعد تعاطي القنب.

الآثار الطويلة الأجل لتعاطي القنب :إن التعرض للماريجوانا قد يكون له عواقب صحية بدنية وعقلية وسلوكية واجتماعية قائمة على أساس بيولوجي، وهو يرتبط بأمراض الكبد والرئتين والقلب والبصر والأوعية الدموية.

-التأثيرات الجسدية للأمفيتامينات:

يمكن أن تشمل الآثار الجانبية القلب والأوعية الدموية مثل ارتفاع ضغط الدم أو انخفاض ضغط الدم، وعدم انتظام دقات القلب (زيادة معدل ضربات القلب). قد تشمل الآثار الجانبية الجنسية عند الذكور ضعف الانتصاب، او الانتصاب المتكرر، أو الانتصاب لفترات طويلة. قد تشمل الآثار الجانبية المعدية المعوية ألم البطن والإمساك والإسهال والغثيان. تتضمن الآثار الجسدية الأخرى المحتملة فقدان الشهية، عدم وضوح الرؤية، جفاف الفم، الطحن الزائد للأسنان، نزيف الأنف، التعرق الغزير، التهاب الأنف الدوائي (احتقان الأنف الناجم عن المخدرات)، خطورة نحو نوبات الصرع، التشنجات اللاإرادية (نوع من اضطراب الحركة)، فقدان الوزن.

الأمفيتامين يحفز الجهاز التنفسي النخاعي ، وينتج أنفاس أسرع وأعمق. يحفز الأمفيتامين أيضًا تقلص العضلة العاصرة في المثانة، وهي العضلات التي تتحكم في التبول ، مما قد يؤدي إلى صعوبة في التبول. يمكن أن يكون هذا التأثير مفيدًا في علاج ترطيب الفراش وفقدان التحكم في المثانة. يحتوي الأمفيتامين أيضًا على تأثير مسكن خفيف ويمكن أن يعزز من تخفيف الألم في العقاقير الافيونية.

-التأثيرات الجسدية للكوكايين:

المخ والأعصاب (يمكن أن يسبب تعاطي الكوكايين صعوبة في المشي ، والصداع ، والمضبوطات ، والنزيف التلقائي ، والسكتة الدماغية ، والذاكرة المؤقتة أو الدائمة ومشاكل الانتباه ، والهزات.

في الجهاز الهضمي يمكن أن يسبب الكوكايين ألمًا شديدًا في البطن ، والإسهال الدموي، والغثيان، والقيء. يتعرض المستخدمون عن طريق الوريد لخطر الإصابة بالتهاب الكبد الفيروسي إذا استخدموا الإبر الملوثة.

القلب (يمكن أن يسبب الكوكايين ألمًا في الصدر وارتفاع ضغط الدم ومعدل ضربات القلب سريعًا أو غير طبيعي ونوبة قلبية. يتعرض المستخدمون في الوريد لخطر متزايد للإصابة بالتهابات بالقلب وصماماته.)

الرئة (الأشخاص الذين يدخنون الكوكايين يمكن أن يكون لديهم ضيق في التنفس والسوائل أو النزيف في الرئة. العضلات (الكوكايين يمكن أن تسبب أضرارا شديدة في العضلات وألم.) أيضا تلفا في الكلى.

تعاطي الكوكايين أثناء الحمل (يرتبط تعاطي الكوكايين بالولادة المبكرة والنزيف المهبلي والموت المفاجئ والعيوب الخلقية).

قضايا أخرى تتعلق بتعاطي المخدرات والإدمان:

يحدث **التحمل الدوائي** عندما تكون هناك حاجة لجرعات أعلى من دواء لإنتاج نفس التأثير الذي تحقق مع استخدامه الأولي؛ وغالبا ما يرتبط التحمل مع الاعتماد. بمعنى آخر، التحمل هو تغيير فسيولوجي يحدث لأولئك الذين يتعاطون المخدرات.

ينطوي **الانسحاب** على تطوير مجموعة معقدة من الأعراض التي تحدث عند التوقف عن تعاطي المخدرات أو خفضها بشكل مفاجئ، وعادة ما تتميز بعدم الراحة الشديدة والألم والغثيان والقيء وربما التشنجات. أو يعتبر الانسحاب حالة جسدية ونفسية غير مريحة تحدث لأولئك الذين يتركون المخدرات. على سبيل المثال، تشمل علامات وأعراض انسحاب المواد الأفيونية التالية (الأرق، القلق، التهيج وتشنج العضلات، مشاكل في الجهاز الهضمي، مثل القيء أو الإسهال، عزل نفسك عن الأصدقاء أو أفراد الأسرة).

المحاضرة الثالثة:

<u>الجزء الأول</u>: الآثار النفسية والعقلية للإدمان على المخدرات او تعاطيها

<u>الجزء الثاني</u>: التأثيرات الفردية والعائلية والاجتماعية للإدمان

الجزء الثالث: الأعباء الاقتصادية لإدمان المخدرات

<u>الوسائل التعليمية:</u>

أ. أسلوب إلقاء المحاضرة والمناقشة من خلال تطبيق منصة الزوم.

ب. عرض فيديوهات وصور توضيحية.

ج. استعمال البوربوينت والانترنت.

<u>تاريخ المحاضرة</u>: ٢٠٢٠/١٠/٢١ الساعة الثامنة مساءا

<u>مدة المحاضرة</u>: ٤٠ دقيقة

المجال الرابع - الآثار النفسية للإدمان وتعاطي المخدرات

بشكل عام متعاطي المخدرات المزمنين، ينخرطون في أنشطة عنيفة وفاسدة ومنحرفة. كما ان العلامات النفسية للإدمان على المخدرات عن طريق الاستنشاق او غيرها تشمل القلق والتهيج.

<u>الآثار النفسية والسلوكية المحددة من:</u>

<u>-المواد الأفيونية:</u> بشكل عام ، تعتبر الهلوسة وتغيير المزاج والمشاكل الاجتماعية من الآثار النفسية لإدمان المواد الأفيونية .

١ -الأعراض السلوكية: الكذب حول الألم لتلقي الوصفات لأدوية أفيونية، الأداء الضعيف في العمل او الدراسة، فترات الغياب غير المبررة ، عزل نفسك عن الأصدقاء أو أفراد الأسرة.

٢ - الأعراض الإدراكية: تباطؤ التفكير، وضعف الحكم وحل المشكلات، الشعور بالانفصال عن محيط الفرد، صعوبة التركيز.

٣ -الأعراض النفسية والاجتماعية: التقلبات العاطفية، التهيج، الاكتئاب، جنون العظمة.

وبالإضافة إلى ذلك، والأعراض النفسية للانسحاب من إدمان المخدرات المستنشقة قد تتضمن الانفعالات المتطرفة والقلق والهلوسة.

القنب:

الآثار النفسية قصيرة الأجل لتعاطي القنب :

- التأثيرات النفسية - نشوة (هي تجربة أو تأثير من المتعة أو الإثارة ومشاعر مكثفة من الرفاهية والسعادة)، والقلق الشديد، والتشوهات في إدراك الوقت، ونوبات الهلع، والأوهام، وهشاشة كاذبة، وترنح. القنب يمكن أن يؤدي إلى الذهان الحاد والحالات الفصامية، مثل ضياع الشخصية وتبدد الواقع.

- الذاكرة والتعلم: تأثيرات سلبية مؤقتة على الذاكرة العاملة قصيرة المدى.

- يتم تعريف اضطراب تعاطي القنب في المرجع الخامس للدليل التشخيصي والإحصائي للاضطرابات العقلية (DSM-5) كحالة تتطلب العلاج. استخدام الماريجوانا يمكن أن يسبب اللامبالاة (الفتور) ومتلازمة انعدام الحافز. استخدام الحشيش بشكل دوري قد يسبب أيضا انعدام التلذذ.

-الآثار النفسية للأمفيتامينات:

في الجرعات العلاجية العادية، تشمل الآثار الجانبية النفسية الأكثر شيوعًا للأمفيتامين زيادة اليقظة، والخوف، والتركيز ، والمبادرة ، واحساس بالثقة بالنفس، وتقلب المزاج ، والأرق أو اليقظة ، وانخفاض الشعور بالتعب. تشمل الآثار الجانبية الأقل شيوعًا القلق والتغيير في الرغبة الجنسية والعظمة والتهيج والسلوكيات الوسواسية والأرق؛ هذه الآثار تعتمد على شخصية المستخدم والحالة العقلية الحالية. ذهان الأمفيتامين والسلوك العدواني (على سبيل المثال، الأوهام وجنون العظمة) يمكن أن تحدث عند المدمنين. على الرغم من ندرته، يمكن أن يحدث أيضًا الذهان عند تناول جرعات علاجية خلال فترة طويلة من العلاج.

-التأثيرات العقلية للكوكايين: مادة منشطة تسبب الهلوسة

قد تشمل التأثيرات فقدان الاتصال مع الواقع ، والشعور الشديد بالسعادة ، أو الإثارة.

الاكتئاب (انخفاض الطاقة ، الأفكار السلبية المستمرة ، التفكير الضعيف ، مشاعر اليأس ، فقدان الاهتمام أو المتعة في الهوايات ، الأرق ، صعوبة النوم).

الذهان الناجم عن الكوكايين (يمكن أن يؤدي تعاطي الكوكايين على المدى الطويل إلى ظهور أعراض ذهانية مؤقتة مثل الهلوسة والبارانويا (جنون الارتياب). ويعرف هذا بالذهان الناجم عن الكوكايين، وقد يصعب التمييز بينه وبين مرض انفصام الشخصية).

الاضطراب الثنائي القطب (المعروف سابقًا باسم مرض الهوس الاكتئابي أو الاكتئاب الهوسي) هو اضطراب عقلي يسبب تحولات غير اعتيادية في المزاج والطاقة ومستويات النشاط والتركيز والقدرة على القيام بمهام يومية.

التخبط العاطفي:

يمكن أن يؤدي إدمان الكوكايين إلى انخفاض نشاط الدماغ في المناطق المتعلقة بالمعالجة العاطفية والوعي بالأخطاء. يُظهر الأشخاص المدمنون على الكوكايين أيضًا مشاكل في التفاعلات الاجتماعية ، حيث يضعون قيمة على مكاسبهم الخاصة عند التفاعل مع أشخاص آخرين وأقل قلقًا بشأن كيفية تأثير سلوكياتهم على أنفسهم وعلى من حولهم. أظهر الأشخاص الذين يعتمدون على الكوكايين مشاعر حادة وأنانية، وخطر إصابتهم باضطراب الشخصية المعادية للمجتمع هو ٢٢ % ضعف خطر غير المدمنين.

التأثيرات الاجتماعية والاقتصادية لإدمان وتعاطي المخدرات:

مكانة المدمنون في المجتمع هي مكانة انعزالية نتيجة لرفض المجتمع لهم ونتيجة لاستسلامهم للإدمان. المجتمع الذي يحتوي على أعداد كبيرة من الأشخاص المدمنين يعاني عادة من مشاكل اقتصادية واجتماعية وصحية. هيكل الأسرة المضطرب، والسلوك المعادي للمجتمع هي نماذج من العواقب الاجتماعية للإدمان وتعاطي المخدرات، **يمكن تصنيف هذه التأثيرات بثلاث أمور:**

الآثار على الفرد:

إن لتعاطي المواد التي تسبب الإدمان عواقب جسدية ونفسية واجتماعية واقتصادية عديدة، خاصة بالنسبة للمراهقين. كما أنه يرتبط بالأمراض المعدية مثل الإيدز نتيجة الحقن الملوثة. أيضا ترتبط بمشاكل أسرية وضعف العلاقة مع الأقارب والأصدقاء وأيضا العزلة التامة عن المجتمع وترك الدراسة.

١. ان تعاطي المخدرات يمكن ان يؤدي الى انتشار البطالة بين الشباب وبالتالي زيادة المشكلات الاجتماعية.
٢. فقدان الصفات الاجتماعية حيث يصبح المدمن شخصا غير سويا في المجتمع.
٣. فقدان القدرة على تحمل المسؤولية داخل البيت والمجتمع.
٤. ضعف القدرة على التحكم في مختلف المواقف.
٥. اللامبالاة والتسرع وازدياد درجة التردد.
٦. الاضرار بالنمو العاطفي والاجتماعي وعدم الاستقرار النفسي.
٧. ضعف القدرة على الاداء واحساس المتعاطي بالضياع والاغتراب عن مواقع الانتاج.

الآثار على الأسرة:

١ .العبء العاطفي: قد يشعر افراد الاسرة بالغضب والإحباط والقلق والخوف والاكتئاب والعار والذنب أو الإحراج نتيجة وجود فرد مدمن في الأسرة.

٢ .العبء الاقتصادي: قد يكون هذا بسبب الأموال التي يتم إنفاقها على المخدرات، أو مثل قيام المدمن بالسرقة وغيرها من الأمور للحصول على المال.

٣ .العلاقات المتوترة بين افراد الاسرة: قد تواجه العائلات معدلات عالية من التوتر والصراع فيما يتعلق بـ اضطراب تعاطي المخدرات.

٤ .عدم الاستقرار الأسري: قد ينتج هذا عن سوء المعاملة أو العنف، أو تفكك الأسرة بسبب الانفصال أو الطلاق.

٥ .تأثيرات على نمو الجنين والأطفال. يمكن أن يؤدي تعاطي الكحول أثناء الحمل إلى الإضرار بنمو الجنين مسبباً تشوهات خلقية وخطر التأخر في النمو أو التأخر الإدراكي. يتعرض أطفال لخطر متزايد للإساءة أو الإهمال، والمشاكل الجسدية، وسوء التحكم في السلوك أو الانفعالات، وسوء التنظيم العاطفي، اضطرابات السلوك أو المعارضة، والأداء الأكاديمي الضعيف، والمشاكل النفسية مثل الاكتئاب أو القلق، وتعاطي المخدرات.

الآثار على المجتمع:

إن المجتمع الذي فيه مدمنين كثر سوف يتأثر بشكل مباشر، على سبيل المثال سوف ينتشر الصراع الاجتماعي والوفيات والحوادث الخطيرة، وكذلك انتشار الأمراض المعدية، ناهيك عن ارتفاع معدل الانتحار بين الشباب. تشمل المشاكل الاجتماعية المتعلقة بالإدمان العديد من الجوانب، على سبيل المثال التشرد (فقدان المسكن) هو أحدها. سيزداد معدل الجرائم المرتبطة بالإدمان بشكل كبير، خاصة بين الشباب والمراهقين. لا شك أن البطالة احدى النتاجات الخطيرة لهذا المرض المدمر.

المراهقون والشباب المتورطون في عالم المخدرات، يرتكبون أعمالًا إجرامية، ولا يفهمون المخاطر والعواقب اللاحقة. واشارت العديد من الدراسات الى تورط الشباب المتعاطين للمخدرات في ارتكاب جرائم السرقات والعنف والتشويه واستخدام الاسلحة والعصابات وذلك لتعودهم على تعاطي المخدرات وخاصة من اجل الحصول على العقاقير والمواد المخدرة او المال الذي يشترون به المخدر. كما وجد ان هناك علاقة وطيدة بين المخدرات والانتحار بسبب تعاطي جرعات كبيرة من المخدر.

وصمة العار هي أحد الجوانب الاجتماعية للإدمان. حيث يوجد مصطلح وصمة العار، والتي يتم تعريفها على أنها تصور أعضاء مجموعة المجتمع تجاه فرد معين أو قضية معينة. وتجدر الإشارة إلى أن خوف المدمنين، وخاصة الشباب منهم، من وصمة العار المجتمعي، يدفعهم إلى تجنب طلب

المساعدة أو العلاج لمشكلتهم، ويزداد احتمال تعرضهم لمضاعفات صحية جسدية ونفسية نتيجة هذا الخوف.

يؤدي تعاطي المخدرات إلى خفض التحصيل التعليمي، على سبيل المثال، يؤدي تدخين سيجارة واحدة من الحشيش إلى إضعاف الأداء المعرفي لمدة أسبوع تقريبًا. كما ترتبط هذه المشكلة بالغياب والفصل من المدرسة، مما يؤثر على التعليم بين الشباب المتضررين.

التأثيرات الاقتصادية والبيئية والتعليمية للمخدرات:

١- التكلفة الاقتصادية و المالية الكبيرة على خزينة الدولة نتيجة ارتفاع تكاليف الوقاية (برامج التثقيف و التعليم) و كذلك العلاج من الإدمان على المخدرات.
٢- التأثير على السلامة العامة و كثرة حوادث السيارات الناجمة عن تعاطي المخدرات و بالطبع ما ترتبط بها من تأثيرات و خسائر مالية.
٣- التأثير على تعليم الأجيال و لا سيما فئة المراهقين و الشباب، ما سينعكس سلباً على وجود جيل متعلم و واعي مستقبلا.
٤- بث سموم للبيئة من خلال مخلفات سمية ناتجة عن تصنيع المواد المسببة للإدمان.
٥- خسائر إنتاجية كبيرة على اقتصاديات البلدان التي فيها كثرة من المدمنين نتيجة خمول اليد العملة و قلة الإنتاج.
٦- التكاليف الاقتصادية الضخمة على الطبقتين المتوسطة و الفقيرة.

المحاضرة الرابعة:

<u>الجزء الأول</u>: المشاكل الصحية والاجتماعية للإدمان على الكحول

<u>الجزء الثاني</u>: التأثيرات النفسية والعقلية لتعاطي الكحوليات وإدمانها

الجزء الثالث: معلومات عامة عن تدخين السكائر ومكوناتها الخطيرة

الجزء الرابع: تأثير النيكوتين والتبغ على صحة الإنسان البدنية

<u>الوسائل التعليمية:</u>

أ. أسلوب إلقاء المحاضرة والمناقشة من خلال تطبيق منصة الزوم.

ب. عرض فيديوهات وصور توضيحية.

ج. استعمال البوربوينت والانترنت.

<u>تاريخ المحاضرة</u>: ٢٠٢٠/١٠/٢٤ الساعة الثامنة مساءا

<u>مدة المحاضرة</u>: ٤٠ دقيقة

المجال السادس – المعارف حول تعاطي المواد الأخرى (التبغ والكحول).

الكحول:

من المخدرات الأخرى التي تؤثر على صحة الإنسان هي الكحول، والتي أيضا، تعتبر مادة تسبب الادمان. يُدعى الشخص المدمن على الكحول بأنه معتمد على الكحول (كحولي) ويسمي إدمانه الإدمان على الكحولية.

هنالك تشابه كبير بين آلية الإدمان على الكحول مع الأنواع الأخرى من المخدرات المثبطة للجهاز العصبي المركزي للإنسان كالأفيون والقنب.

يتدخل الكحول كغيره من العقاقير في عمل الجهاز العصبي وكذلك المخ (مادة مثبطة)، مما يؤثر على التفكير والسلوك، مما يؤدي إلى اضطرابات في التفكير والمزاج والسلوك واتخاذ القرار.

يؤدي الإدمان وتعاطي الكحول إلى الإضرار بجهاز القلب والأوعية الدموية، مما يتسبب في عدم انتظام ضربات القلب أو ارتفاع ضغط الدم لدى الشخص المدمن وقد يساهم في الإصابة بالسكتة الدماغية، فضلاً عن ارتباطه الوثيق باعتلال عضلة القلب.

فيما يتعلق بالتأثيرات على الكبد والبنكرياس: يساهم إدمان الكحول في التهاب الكبد ويسبب تليف الكبد، وكذلك حدوث التهاب الكبد الكحولي وأمراض الكبد الدهنية. نتيجة لسمية الكحول فإنه يجبر البنكرياس على إفراز السموم ثم الالتهاب نتيجة نفس السموم التي يفرزها وهي حالة خطيرة للغاية تمنع الامتصاص المناسب للطعام. كذلك علاقة وطيدة بين تعاطي الكحول على المدى الطويل

وحدوث أنواع من الأمراض السرطانية. نظرًا لأن تناول هذه المادة بانتظام مرتبط ارتباطًا مباشرًا بالسرطان. و لا ننسى التأثير السلبي للكحول على جهاز المناعة لدى الإنسان حيث يخفض من قابلية الجسم للدفاع عن النفس ضد الأمراض.

التأثيرات قصيرة الأجل للكحول

ضعف الحكم الاجتماعي، وصعوبة التركيز، وفقدان التنسيق، وفقدان الحكم النقدي، والإدراك المتزعزع وخاصة الرؤية، وتقلب المزاج، وانخفاض درجة حرارة الجسم الأساسية، وضغط الدم المرتفع، وفقدان الوعي، والعدوانية والقيء.

قد تتضمن التأثيرات الطويلة الأجل للشرب المفرط للكحول ما يلي:

تناقص المادة الرمادية والمادة البيضاء في المخ، وفقدان الذاكرة، وفقدان الانتباه، والتعلم، والتهاب الكبد الكحولي، وتليف الكبد (تليف الكبد)، سرطان (الحلق، الفم، الحنجرة، الثدي، الكبد، القولون والمستقيم، أو المريء)، ارتفاع ضغط الدم، اعتلال عضلة القلب، السكتة الدماغية، الصرع، عدم انتظام ضربات القلب.

ربطت العديد من الدراسات حول العنف خاصة عند الشباب، مع تعاطي الكحول، مما يشير إلى وجود علاقة بين تعاطي الكحول والسلوك العدواني في المجتمع. كما أن هناك العديد من الدراسات حول الجذور البيولوجية التي يسببها الكحول والتي تؤدي إلى العنف واللامنطقية في اتخاذ القرارات تحت تأثير المشروبات الكحولية.

التأثيرات النفسية للكحول:

تشمل الاضطرابات النفسية المتعلقة بإدمان الكحول اضطراب الاكتئاب، الهوس، اضطراب الهلع، اضطراب القلق ، الرهاب، اضطراب الشخصية، الفصام، الانتحار، والاضطرابات العصبية (مثل قصور الذاكرة العاملة، الشعور، الوظائف التنفيذية، قدرات الإبصار الفراغية، طريقة المشي، المتوازن).

التبغ والتدخين:

وفقًا لأحدث الإحصاءات العالمية، يتسبب تدخين التبغ بجميع أنواعه وأشكاله في وفاة ما يقرب من ثمانية ملايين شخص حول العالم. حيث الموت كنتيجة مباشرة للتدخين يشكل أكثر من ٨٥٪ من نسبة الوفيات بالتبغ ، بينما تتوفى الـ ١٥٪ المتبقية نتيجة للتدخين السلبي. المثير للدهشة أن الغالبية العظمى من المدخنين هم من سكان بلدان النامية، حيث يتراوح الدخل اليومي من المتوسط إلى المنخفض.

ان المنظمة الامريكية المختصة بالصحة النفسية اشارت في ليلها الخامس و الاحدث الى تعاطي التبغ بأنه اح اضطرابات تعاطي المواد المخدرة كما تشير الكثير من المصادر اليه الى نوع من أنواع الإدمان و بالذات على مادة النيكوتين.

هناك العديد من اشكال مستحضرات النيكوتين (علكة النيكوتين، ولصقات النيكوتين، والسجائر الإلكترونية والاشكال المستنشقة) والتي للأسف تتوفر بشكل وافر في معظم أنحاء العالم.

يزيد التدخين من خطر الإصابة بالعديد من المشكلات الصحية، بما في ذلك خطر الإصابة بأمراض القلب لأن النيكوتين يزيد من معدل ضربات القلب وضغط الدم، ويساهم النيكوتين في تطور تصلب الشرايين، ويزيد النيكوتين من خطر تجلط الدم. التبغ هو السبب الرئيسي للسرطانات التي يمكن الوقاية منها. من المعروف جيدًا أن النيكوتين له آثار جانبية جهازية خطيرة بالإضافة إلى أنه شديد الإدمان. إنه يؤثر سلبًا على القلب والجهاز التناسلي والرئة والكلى وما إلى ذلك. وقد أثبتت العديد من الدراسات باستمرار قدرتها على إحداث السرطان.

أيضا، فإن نتاجات حرق السجائر ضارة للغاية، على سبيل المثال أول أكسيد الكربون هو غاز خطير، عديم اللون، والرائحة التي تنتجها السجائر. بالإضافة إلى وجود مواد كيميائية خطرة تستخدم في وقود، مزيل طلاء الأظافر، الشمع، مواد من البطاريات القابلة لإعادة الشحن، سائل مبيض الملابس (قاصر) ومنظف المراحيض (فلاش)، في السجائر.

يتسبب تدخين التبغ بشكل رئيسي في مجموعة من الأمراض تسمى "امراض الانسداد الرئوي المزمن (COPD)" ، والتي تشمل انتفاخ الرئة ، وفي بعض الأحيان يسبب التدخين الربو ، بالإضافة إلى التهاب الشعب الهوائية المزمن ، وهي أمراض تتميز بمشاكل في الجهاز التنفسي وتضيق أو انسداد المسالك الهوائية. تدخين السجائر في سن مبكرة (منذ الطفولة أو المراهقة) له دور جوهري في التأثير على التطور السليم للرئتين مما يشكل مسبباً لهذه المجموعة من أمراض الجهاز التنفسي في مرحلة البلوغ.

إن أفضل طريقة للإقلاع عن التدخين هي من خلال العلاج السلوكي الجماعي، لكن لسوء الحظ، من الصعب للغاية الإقلاع عن الإدمان للأشخاص من ذوي الوضع الاقتصادي المنخفض، حيث يتمتع الأغنياء بمزيد من الوقت والمال للانخراط في مثل هذه البرامج المعززة للصحة. يمكن استخلاص استنتاجات بسيطة بشأن النيكوتين والتبغ:

١ .السجائر وغيرها من أشكال التبغ هي مسببة للإدمان.

٢ .النيكوتين هي المادة في التبغ التي تسبب الإدمان.

٣. هنالك تشابه بين العمليات الفسيولوجية والسلوكية التي من خلالها يتم تشخيص إدمان التبغ مع تلك التي من خلالها يتم تشخيص الإدمان على الهيروين والكوكايين.

لذلك، فإن علاج إدمان النيكوتين والكحول مماثل لأي من المخدرات المسببة للإدمان في الخطوات العامة.

المحاضرة الخامسة:

<u>الجزء الأول</u>: الأسباب الكامنة وراء تعاطي المخدرات وادمانها

<u>الجزء الثاني</u>: توضيح أساليب الوقاية من الإدمان على المخدرات ونصائح مفيدة حول الأمر

الجزء الثالث: المعالجات الطبية والنفسية المعتمدة لعلاج الإدمان على المخدرات

<u>الوسائل التعليمية:</u>

أ. أسلوب إلقاء المحاضرة والمناقشة من خلال تطبيق منصة الزوم.

ب. عرض فيديوهات وصور توضيحية.

ج. استعمال البوربوينت والانترنت.

<u>تاريخ المحاضرة</u>: ٢٠٢٠/١٠/٢٨ الساعة الثامنة مساءا

<u>مدة المحاضرة</u>: ٤٠ دقيقة

أسباب الإدمان و طرق الوقاية منه و كذلك الأساليب العلاجية المتبعة في معالجة المدمنين

الأسباب التي تؤدي لتعاطي المخدرات

١. المشاكل الأسرية المستمرة بين الأم والأب.
٢. تعرّض الأبناء للتعنيف والضرب من قبل عائلتهم والمجتمع.
٣. التقليد الأعمى للأصدقاء والوالدين.
٤. الرغبة بالتعرّف على كل شيئ جديد حتّى لو كان سيئاً.
٥. العيش في منطقة مليئة بالمخدرات والأشخاص المدمنين عليها.
٦. اليأس والإحباط، ورغبة الإنسان في الحصول على السعادة.
٧. حصول الأولاد على كميّةٍ مرتفعةٍ جداً من الأموال.
٨. الوضع المادي والاقتصادي السيئ وعيش الأطفال في جو مليئ بالفقر.
٩. مشاهدة الأفلام التي تساهم في تخريب عقول المراهقين بشكلٍ خاص.

يمكن تحديد العوامل المؤدية الى تعاطي المخدرات بما يأتي:

اولا : عوامل أقتصادية وتشمل:

١- البطالة فضلا عن قلة فرص العمل وتوفر أوقات الفراغ بشكل كبير لدى الشباب.
٢- تأثير وسائل الاعلام لما تطرحه من اعلانات ودعايات مما يتأثر بها الشباب ضعفاء النفوس.

٣- امكانية الحصول على المخدر وذلك اما بوصفها من قبل الطبيب او شرائها بصورة مشروعة مثل السكائر والكحول او شرائها بصورة غير مشروعة مثل الهيروين والكوكائين ...الخ

ثانيا": عوامل نفسية وتشمل:

١- الضغوط النفسية الكبيرة نتيجة الاحباط في الدراسة.
٢- الشعور بالنقص نتيجة عاهة او عوق او عدم مجاراة الاخرين في مستوى طبقيا او ثقافيا.
٣- الشعور بالفشل وضعف القدرة والكفاءة.
٤- وجود رغبة شخصية في التخريب او حب الاستطلاع والمجازفة او وجود توهم بان التعاطي للمخدرات يدل على الاستقلالية وقوة الشخصية.
٥- صفات في شخصية المدمن مثل فقدان او نقص الصفات اللازمة للتكيف مع ظروف الحياة وتحدياتها وخاصة في مرحلة المراهقة واول الشباب حيث يجد الشباب صعوبة في تقبل السلطة او يكون تحصيلهم الدراسي اقل من المتوقع .
٦- الكآبة و القلق يعتبران من اهم الاسباب المؤدية للإدمان

ثالثا عوامل اجتماعية وتشمل:

١- دور رفقاء السوء في الترغيب او الحث او التوريط او التقليد او تيسيير فرص التعاطي والادمان.
٢- التفكك الاسري ونعني به النزاعات والصراعات التي تنشب داخل الاسرة خاصة الوالدين.
٣- التنشئة الاسرية الفاسدة حيث لايمارس الاب او الام او كلاهما دوره في تنشئة وتربية وتوجيه الابناء التوجيه الصحيح وحيث تكون هناك تفرقة بين الابناء في المعاملة او استخدام القسوة او الاهمال او التدليل او انحراف احد الابوين او كلاهما فينعكس سلوكه على الابناء.
٤- تقليد شخص سيء بسبب يكون غياب التوجيه والقدوة الحسنة.
٥- تأثير الحي السكني: ان طبيعة المنطقة لها تأثير سلبي كبير خاصة في المناطق الهامشية او الفقيرة او المناطق العشوائية.
٦- تأثير وسائل الاعلام لما تعرضه من نماذج سيئة من افلام او برامج يغيب فيها الوعي والصورة الصحيحة التي يجب ان تظهر بها هذه البرامج من ان تؤدي رسالتها.
٧- سوء استغلال اوقات الفراغ يعد عاملا اخر في تهيئة فرص الانحراف وتعاطي المخدرات .
٨- او شعور المدمن بالأهمية والانتماء للجماعات التي تستعمل هذه المواد.

٩- الجهل عامة، وضعف التوعية باخطار المخدرات، حيث يقع على عاتق الجهات المسؤولة سواء كانت حكومية او صحية او اعلامية او اسرية او مدرسية او منظمات اهلية او نقابات وغيرها.

١٠- الحروب تؤدي الى تشريد الاسر وتضعف الروابط الاسرية وتعرض الشباب الى تجارب قاسية قد تدفعهم الى تعاطي المخدرات.

وسائل وطرق الوقاية من الإدمان:

١.التأكيد على تضمين مشكلة المخدرات والادمان في المناهج لتدرس في المدارس كافة.

٢.الاهتمام بتثقيف الطلبة وتدريبهم، على سبل الوقاية من المخدرات وأمكانية المشاركة في الحملات المجتمعية المناهضة للمخدرات.

٣.انشاء قاعدة معلومات تتعلق بالطلبة المدمنين في المدارس والجامعات والمترددين على المستشفيات والمراكز الاهلية المتخصصة من اجل التدخل العلاجي لحالات التعاطي واعادة استيعابها ودمجها في المجتمع.

٤.ضرورة تنسيق الجامعات مع رجال الدين، لعقد الندوات الهادفة حول الادمان ومخاطر ذلك على الفرد والمجتمع وتشجيعهم على تضمين خطبهم ودروسهم الدينية على دور العقل والروح والنفس في تكوين اتجاه مضاد لتعاطي المخدرات.

٥.انشاء مراكز الارشاد النفسي وعيادات الصحة النفسية في المدارس والتي يمكن ان تؤدي دورها في وضع البرامج الارشادية والعلاجية للطلبة المدمنين على تعاطي المخدرات.

٦.ضرورة اعتماد الاساليب النفسية العلمية الهادفة للتخفيف من معاناة الشباب ومساعدتهم في التغلب على حالة الادمان من خلال اتباع الاساليب العلاجية الاتية:

أ. العلاج الروحي الديني.
ب. العلاج النفسي الفردي.
ج. العلاج النفسي العائلي.
د. العلاج النفسي الجماعي.
هـ. العلاج السلوكي.
و. العلاج التأهيلي.

٧.متابعة ورعاية الطلبة الذين يعانون من مشكلات نفسية واجتماعية كفقدان أحد الوالدين او التصدع الاسري او ضعف الجانب الاقتصادي وتحقيق الرعاية الشاملة لهم.

٨. تأهيل الشباب الذين لهم علاقة بمشاكل المخدرات من خلال التعرف على بيئتهم الاجتماعية والنفسية وانواع المخدرات التي يتعاطونها واكسابهم المهارات اللازمة لحل مشاكلهم.

٩.تشجيع الطلبة على المشاركة في انشطة الاتحادات الطلابية والجمعيات المتخصصة لتحقيق الاستثمار الامثل للوقت وتنمية ثقافة العمل التطوعي لديهم.

١٠.تنظيم المسابقات الطلابية للتوعية بأضرار المخدرات والادمان عليها من خلال البحوث والدراسات والمقالات والرسوم الكاريكاتيرية وتكريمهم لزيادة الوعي والاطلاع.

١١.اقامة الزيارات الميدانية لطلبة المدارس لبعض الجهات المهتمة بموضوع التوعية في مجال مكافحة المخدرات.

١٢.ضرورة مشاركة تدريسيو الجامعات والمدارس في البرامج التلفزيونية والاذاعية التي تتناول مناهضة المخدرات وآليات الوقاية منها.

١٣.تشجيع الطلبة ضمن الانشطة الفنية والاجتماعية بإنتاج مسرحيات تهتم بالتوعية من مخاطر المخدرات والقيام بحملات توعية وتثقيف في كافة التجمعات الطلابية.

١٤.ضرورة حث المؤسسات الرقابية في متابعة الاعلانات عن المشروبات الكحولية او المخدرات التي تعلن عن طريق الانترنيت او الافلام الهابطة او المتاجر العامة او الفنادق.

١٥.ضرورة التعرف على ابعاد المشكلة من خلال اجراء الدراسات والبحوث الميدانية مثل :دراسة الحالات، دراسة اتجاهات المجتمع نحو المخدرات، الدراسات المرتبطة بمشاكل الشباب وانحرافهم.

طرق العلاج المستخدمة للتخلّص من الإدمان على المخدرات:

وأفضل علاج للإدمان على المخدرات يشمل تقديم المشورة، والأدوية المناسبة والدعم النفسي.

١- مرحلة التخلّص من كل سموم الجسم:

وهي المرحلة الأولى من مراحل العلاج من الإدمان، والتي تقوم على تخليص الجسم من السموم المتراكمة فيهِ وبشكلٍ خاص في الدّم، ويقولُ الخبراء بأنّ هذهِ المرحلة تعتبر من أهم المراحل التي لا يُمكن تخطيها على الإطلاق.

٢- مرحلة علاج الأعراض الإنسحابيّة:

ونقصد هنا بالأعراض الإنسحابيّة الأعراض التي يُعاني منها المدمن في مرحلة نزع السموم، كالإصابة بالأرق، اضطرابات النوم، آلام في البطن، ارتفاع في ضغط الدم، التعرق الزائد، وارتفاع في درجة حرارة الجسم، بالإضافة لبعض الهلوسات العقليّة والتفكير بأشياء غير منطقيّة كالانتحار

مثلاً، لهذا من الأفضل أن يتم حجز المُدمن في المراكز الصحيّة المخصصة لعلاج الإدمان وتحت رقابةٍ طبيّةٍ صارمة.

٣ -مرحلة التأهيل:

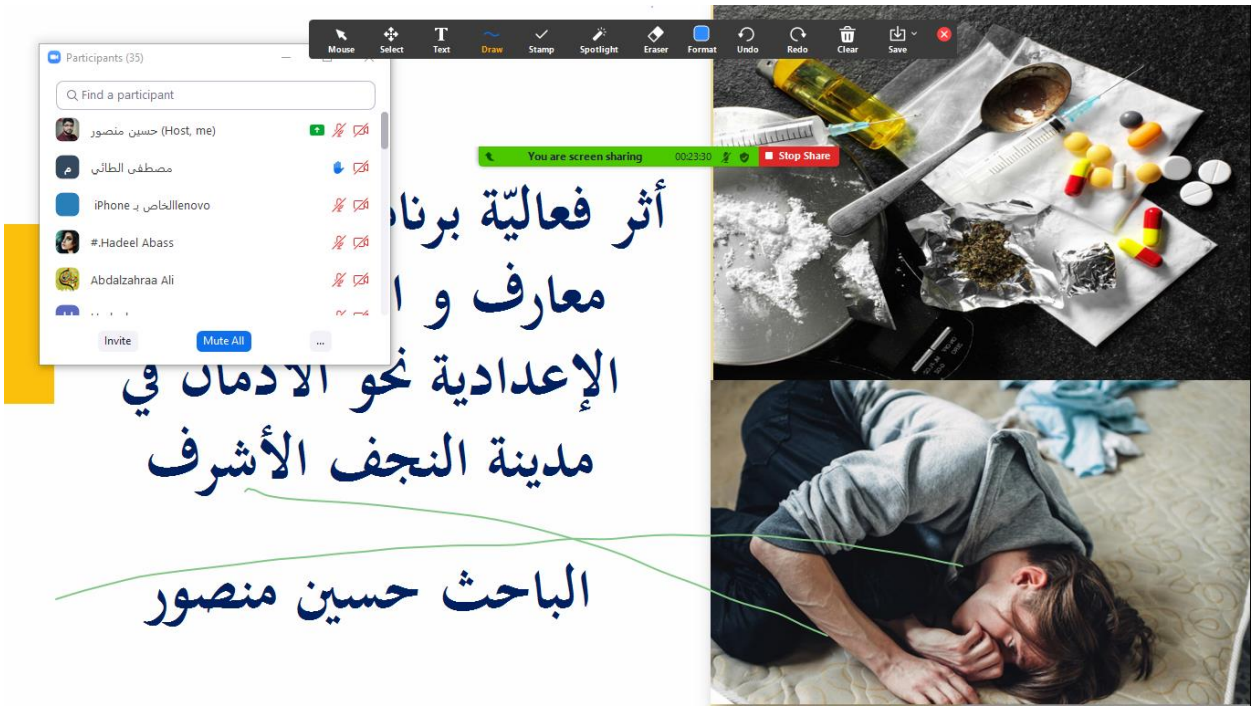
وفي هذه المرحلة يتم خضوع المدمن لبعض جلسات العلاج النفسي والسلوكي الذي يحميهِ من الوقوع بأي نوع من الانتكاسات الصحيّة التي تدفعه للرجوع إلى الإدمان، كما ومن الممكن أن يُمنح المريض في هذهِ المرحلة بعض الأنواع من الأدوية التي تساعدُهُ على اجتياز الرغبة في العودة لتعاطي المخدرات.

٤ -مرحلة الاستشارة النفسيّة:

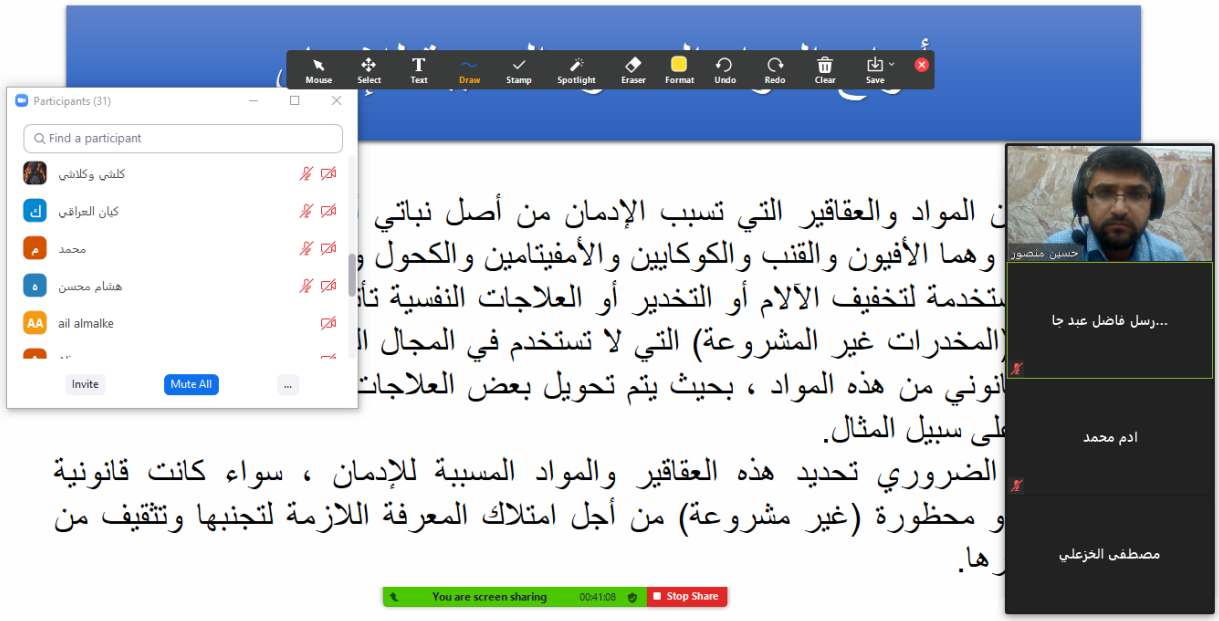
وهي أيضاً من المراحل المهمة التي يخضع فيها المريض لجلساتٍ من العلاج النفسي تحت إشراف المعالج النفسي الذي يسمح للمريض بأن يتحدث بصراحة عن تجربته وعن الأسباب التي دفعتهُ للإدمان على المخدرات، وذلك لحل هذهِ الأمور ومعالجتها قبل خروج المريض من المصحة النفسيّة.

٥ -مرحلة منع الانتكاس:

وهي مرحلة في غاية الأهميّة، حيث يقوم الطبيب هنا بوصف بعض الأنواع من الأدوية التي تساعد على إعادة تنشيط المخ ووظائف الدماغ الطبيعيّة، كما وتساعد هذه الأدوية على تخفيف رغبة المريض في العودة لتعاطي أي نوع من المخدرات، مع ضرورة إجراء الفحوصات الدوريّة إلى أن يتم التأكد من عودته إلى وضعهِ الطبيعي.



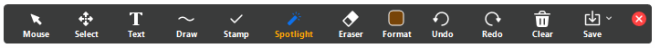
صورة من اللقاء الأول في المحاضرة الأولى عبر تطبيق الزوم



صورة من المحاضرة الثانية عبر تطبيق الزوم

طرق العلاج المستخدمة للتخلّص من الإدمان على

- ١- مرحلة التخلّص من كل سمو
- وهي المرحلة الأولى من مراحل ... وم على تخليص الجسم من السموم المتراكمة فيهِ وبشكلٍ ... بأنّ هذهِ المرحلة تعتبر من أهم المراحل التي لا يُمكن تخطّي
- ٢ - مرحلة علاج الأعراض الإ
- ونقصد هنا بالأعراض الإنسحابيّة الاعراض التي يُعاني منها المدمن في مرحلة نزع السموم، كالإصابة بالأرق، اضطرابات النوم، آلام في البطن، ارتفاع في ضغط الدم، التعرق الزائد، وارتفاع في درجة حرارة الجسم، بالإضافة لبعض الهلوسات العقليّة والتفكير بأشياء غير منطقيّة كالانتحار مثلاً، لهذا من الأفضل أن يتم حجز المُدمن في المراكز الصحيّة المخصصة لعلاج الإدمان وتحت رقابةٍ طبيّةٍ صارمة.



لقطة شاشة من المحاضرة الخامسة وفيها تظهر بعض تعليقات الطلبة وردودهم

خبراء تحكيم الاستبانة

ت	اسم الخبير	سنوات الخبرة	اللقب العلمي	مكان العمل	الاختصاص الدقيق
١	د. راجحة عبد الحسن حمزة	٣٦	أستاذ	جامعة الكوفة/ كلية التمريض	تمريض البالغين
٢	د. اركان بهلول ناجي	٣٤	استاذ	جامعة بغداد /كلية التمريض	تمريض صحة المجتمع
٣	د. فاطمة وناس خضير	٢٥	أستاذ	جامعة الكوفة/ كلية التمريض	تمريض صحة المجتمع
٤	د. سلام جاسم محمد	١٥	أستاذ	جامعة الكوفة/ كلية الطب	طب الأسرة والمجتمع
٥	د. عرفات حسين	١٢	أستاذ	جامعة الكوفة/ كلية الطب	الأمراض النفسية والعصبية
٦	د. احمد شاكر الكلابي	٣٨	أستاذ	جامعة الكوفة/ كلية اللغات	دكتوراه لغة انكليزية
٧	د .عبد المهدي عبد الرضا	٤٠	أستاذ مساعد	جامعة بابل /كلية التمريض	تمريض الصحة النفسية
٨	د. وسام جبار قاسم	٢٤	أستاذ مساعد	جامعة بغداد /كلية التمريض	تمريض صحة المجتمع
٩	د. هدى غازي حميد	١٩	أستاذ مساعد	جامعة الكوفة/ كلية الطب	طب الأسرة والمجتمع
١٠	د. ضياء كريم عبدعلي	١٤	أستاذ مساعد	جامعة العميد/ كلية التمريض	تمريض البالغين
١١	د. قحطان قاسم محمد	١٤	أستاذ مساعد	جامعة بغداد /كلية التمريض	تمريض الصحة النفسية
١٢	د. مرتضى غانم عداي	١٣	أستاذ مساعد	جامعة الكوفة/ كلية التمريض	تمريض صحة المجتمع
١٣	د. حيدر حمزة علي	١١	أستاذ مساعد	جامعة بابل /كلية التمريض	تمريض الصحة النفسية

Distribution of the students' study group in (Pre-test, Post-test I and Post-test II) according to their attitudes domains, and total attitudes

Table 2		Study Pre				Study Post I				Study Post II			
		Freq.	%	M.S	Assess.	Freq.	%	M.S	Assess.	Freq.	%	M.S	Assess.
Affective attitude	Negative	19	54.29	3.05	Positive	0	.00	4.4	Positive	0	.00	4.5	Positive
	Positive	16	45.71			35	100.00			35	100.00		
Behavioral attitude	Negative	5	14.29	3.69	Positive	0	.00	4.67	Positive	0	.00	4.78	Positive
	Positive	30	85.71			35	100.00			35	100.00		
Cognitive attitude	Negative	9	25.71	3.43	Positive	0	.00	4.57	Positive	0	.00	4.6	Positive
	Positive	26	74.29			0	.00			35	100.00		
Total Attitudes	Negative	8	22.86	3.44	Positive	0	.00	4.57	Positive	0	.00	4.64	Positive
	Positive	27	77.14			35	100.00			35	100.00		

Attitude Abbreviation: M.S. ≤ 3 means "Negative" and M.S. > 3 means "Positive".

Distribution of the students' control group in (Pre-test, Post-test I and Post-test II) according to their attitude's domains, and total attitudes

Table 3		Control Pre				Control Post I				Control Post II			
		Freq.	%	M.S	Assess.	Freq.	%	M.S	Assess.	Freq.	%	M.S	Assess.
Affective attitude	Negative	16	45.71	3.13	Positive	17	48.57	3.13	Positive	19	54.29	3.05	Positive
	Positive	19	54.29			18	51.43			16	45.71		
Behavioral attitude	Negative	1	2.86	3.82	Positive	1	2.86	3.82	Positive	4	11.43	3.78	Positive
	Positive	34	97.14			34	97.14			31	88.57		
Cognitive attitude	Negative	5	14.29	3.71	Positive	3	8.57	3.71	Positive	4	11.43	3.71	Positive
	Positive	30	85.71			32	91.43			31	88.57		
Total Attitudes	Negative	2	5.71	3.85	Positive	2	5.71	3.63	Positive	4	11.43	3.60	Positive
	Positive	33	94.29			33	94.29			31	88.57		

Attitude Abbreviation: M.S. ≤ 3 means "Negative" and M.S. > 3 means "Positive".

Repeated Measures ANOVA Tests for three domains of attitudes and overall attitude.

Knowledge		Repeated Measures ANOVA Tests			
		F	p	size effect (d)	Observed power
D1- affective attitude	*Main time effect*	73.39	0.00	0.519	1.00
	Between groups effect	58.35	0.00	0.462	1.00
	Groups Interaction overtime	98.00	0.00	0.590	1.00
D2- behavioral attitude	*Main time effect*	82.8	0.00	0.549	1.00
	Between groups effect	42.911	0.00	0.387	1.00
	Groups Interaction overtime	102.61	0.00	0.601	1.00
D3- cognitive attitude	*Main time effect*	99.16	0.00	0.593	1.00
	Between groups effect	29.99	0.00	0.306	1.00
	Groups Interaction overtime	79.29	0.00	0.590	1.00
Overall Attitudes	*Main time effect*	205.202	0.00	0.751	1.00
	Between groups effect	86.299	0.001	0.559	1.00
	Groups Interaction overtime	183.319	0.001	0.729	1.00

Differences within the Three Phases regarding three domains Attitudes and total attitude of study group, by using Post hoc tests.

Attitudes domains	(I) factor1	(J) factor1	Mean Difference (I-J)	Std. Error	Sig.[b]	95% Confidence Interval for Difference[b]	
						Lower Bound	Upper Bound
D1	1 (Pre)	2 (Post I)	-.674-	.050	.000	-.796-	-.552-
		3 (Post II)	-.683-	.078	.000	-.873-	-.492-
	2 (Post I)	1 (Pre)	.674	.050	.000	.552	.796
		3 (Post II)	-.009-	.064	1.000	-.165-	.148
	3 (Post II)	1 (Pre)	.683	.078	.000	.492	.873
		2 (Post I)	.009	.064	1.000	-.148-	.165
D2	1 (Pre)	2 (Post I)	-.495-	.044	.000	-.603-	-.386-
		3 (Post II)	-.530-	.056	.000	-.667-	-.394-
	2 (Post I)	1 (Pre)	.495	.044	.000	.386	.603
		3 (Post II)	-.036-	.037	.999	-.126-	.054
	3 (Post II)	1 (Pre)	.530	.056	.000	.394	.667
		2 (Post I)	.036	.037	.999	-.054-	.126
D3	1 (Pre)	2 (Post I)	-.621-	.056	.000	-.759-	-.483-
		3 (Post II)	-.633-	.061	.000	-.783-	-.483-
	2 (Post I)	1 (Pre)	.621	.056	.000	.483	.759
		3 (Post II)	-.012-	.032	1.000	-.090-	.066
	3 (Post II)	1 (Pre)	.633	.061	.000	.483	.783
		2 (Post I)	.012	.032	1.000	-.066-	.090
Overall Attitude	1 (Pre)	2 (Post I)	-.592-	.035	.000	-.679-	-.506-
		3 (Post II)	-.611-	.041	.000	-.711-	-.510-
	2 (Post I)	1 (Pre)	.592	.035	.000	.506	.679
		3 (Post II)	-.019-	.025	1.000	-.079-	.042
	3 (Post II)	1 (Pre)	.611	.041	.000	.510	.711
		2 (Post I)	.019	.025	1.000	-.042-	.079

Based on estimated marginal means

*. The mean difference is significant at the .05 level.

b. Adjustment for multiple comparisons: Bonferroni.

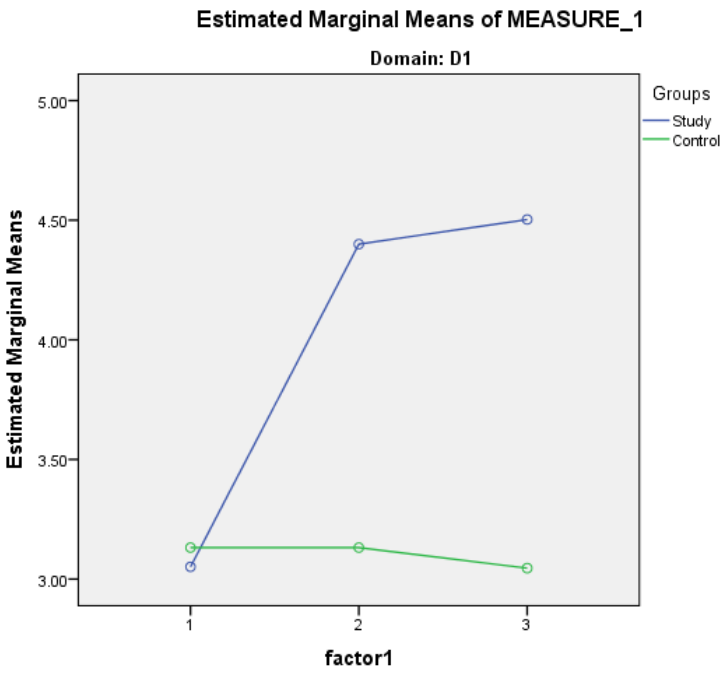


Figure. 1 Plot Changes in the levels of affective Attitudes in the control group and study group throughout the three tests

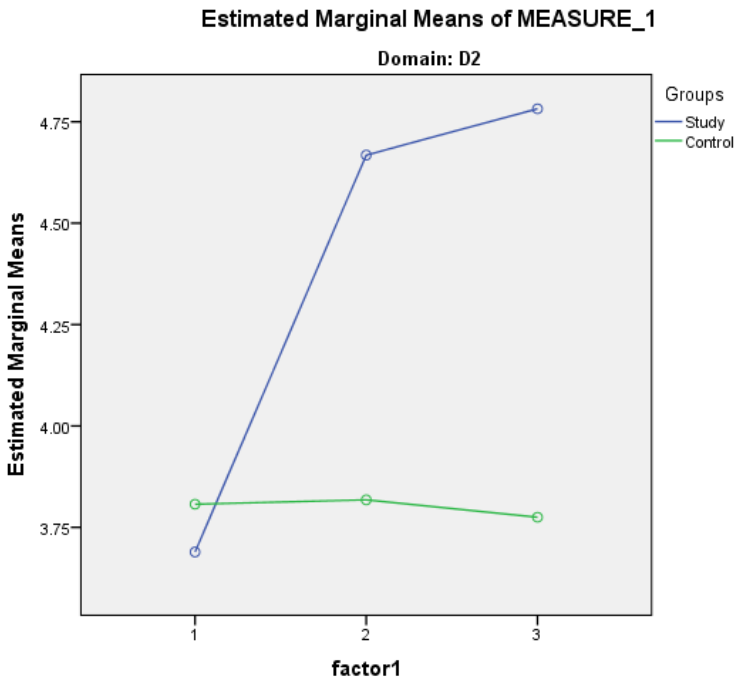


Figure. 2 Plot Changes in the levels of behavioral Attitudes in the control group and study group throughout the three tests

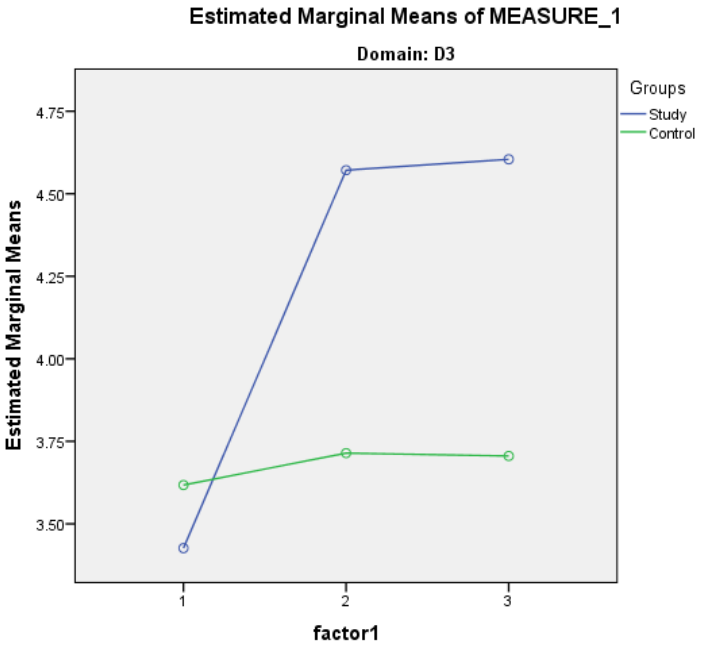


Figure. 3 Plot Changes in the levels of cognitive Attitudes in the control group and study group throughout the three tests

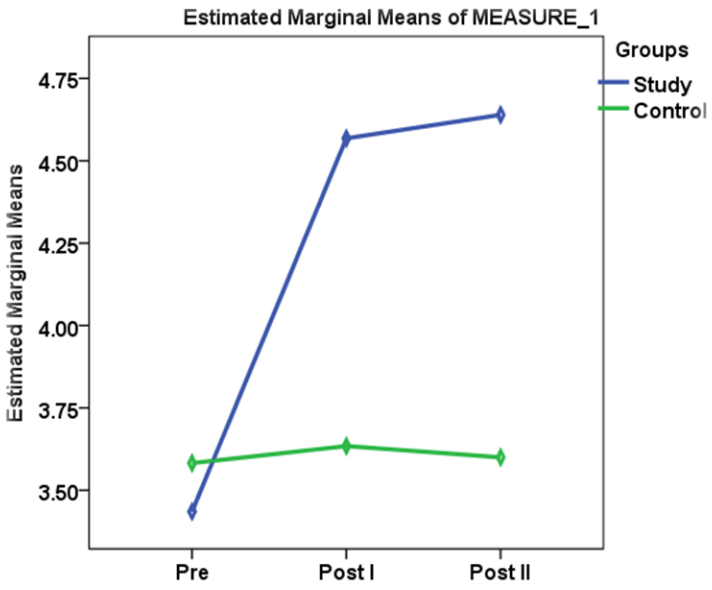


Figure 4. Plot Changes in the levels of Overall Attitudes in the control group and study group throughout the three phases

Table 6**: Correlation among attitude domains for Study Group (Post-I).**

		D1	D2	D3
Affective Attitudes	**Pearson Correlation**		**-.123-**	**.013**
	Sig. (2-tailed)		**.482**	**.942**
	N		**35**	**35**
Behavioral Attitudes	**Pearson Correlation**			**.452****
	Sig. (2-tailed)			**.006**
	N			**35**
Cognitive Attitudes	**Pearson Correlation**			
	Sig. (2-tailed)			
	N			

****. Correlation is significant at the 0.01 level (2-tailed).**

a. type = Study Post I

الخلاصة

إن طلبة المرحلة الإعدادية يمرون بمرحلة عمرية قيد التطور حيث ينتقلون فيها من مرحلة الطفولة السابقة إلى المرحلة التالية وهي النضج، وبالتالي يعانون من صعوبات صحية جمّة، بحيث يصبحون معرضين لأخطار شديدة كالاضطرابات المجتمعية أو الجسدية أو العقلية، بسبب ميلهم للانخراط في أنشطة خطرة. عادة ما يبدأ إدمان المخدرات من هذه الفئة العمرية، وبالتالي فإن تمكين الشباب بالمعرفة المناسبة سيكون تدبيرًا وقائيًا ضد تعاطي وإدمان المخدرات.

أجريت الدراسة الحالية باستخدام منهج شبه تجريبي باستخدام مجموعتين وبثلاث مراحل من التقييم، في الفترة الممتدة من٢٣ ايلول ٢٠١٩ إلى ٤ تموز ٢٠٢١، بهدف تقييم فعالية برنامج تعليمي في تحسين المعارف والاتجاهات تجاه إدمان وتعاطي المخدرات بين الطلاب في المرحلة الإعدادية في مدينة النجف الاشرف.

شارك بالإجمال (٧٠) طالباً وطالبةً من المرحلة الإعدادية حيث قسموا إلى مجموعتين وتم اختيارهم بواسطة عينة غرضية غير احتمالية. تعرضت إحدى المجموعات للبرنامج (مجموعة الدراسة) والمجموعة الأخرى لم تشارك في جلسات البرنامج (المجموعة الضابطة)، وتم تقييم المجموعتين ثلاث مرات مرة (قبل البرنامج) ومرتين بعد تنفيذ البرنامج. كشفت النتائج أن الطلاب من كلا المجموعتين في الاختبار ما قبل البرنامج كان لديهم متوسطة (٥٤٪ لمجموعة الدراسة و ٧١٪ للمجموعة الضابطة) مع مواقف إيجابية تجاه موضوع إدمان المخدرات (٧٧٪ لمجموعة الدراسة و ٩٤٪ للمجموعة الضابطة). ومع ذلك، بعد تطبيق البرنامج، كشفت (الاختبارات اللاحقة) عن تحسن كبير مع في المعرفة (قيمة p 0.001) بنسبة (٨٠٪) و اتجاهات إيجابية بنسبة (١٠٠٪) من طلاب مجموعة الدراسة مقارنة بالمجموعة الضابطة ، والتي بقيت عند نفس المستوى من المعرفة و الاتجاهات تجاه إدمان المخدرات مع انخفاض طفيف في قيمة المتوسط الحسابي.

علاوة على ذلك، خلصت الدراسة إلى أن البرنامج التعليمي كان فعالاً في تعزيز معارف و اتجاهات الطلاب فيما يتعلق بتعاطي المخدرات والإدمان عليها. يضاف الى ذلك، انه من المفيد إجراء مثل هكذا برامج من أجل صون الطلبة من مخاطر الإدمان.

أوصت الدراسة بمزيد من التعديل والتطبيق للبرنامج الحالي في المستقبل إلى جانب الحاجة إلى تثقيف المعلمين والأسر بقضية إدمان المخدرات، وأوصت بأهمية استخدام تطبيقات وسائل التواصل الاجتماعي كوسيلة رئيسية لنشر الوعي ضد تعاطي والإدمان على المخدرات و ذلك بسبب شعبية وسائل التواصل الاجتماعي بين الشباب.

جمهورية العراق
وزارة التعليم العالي والبحث العلمي
جامعة بابل- كلية التمريض

فعّالية برنامج تعليمي على معارف واتجاهات طلبة الإعدادية نحو الإدمان في مدينة النجف الأشرف

أطروحة مقدمة الى
مجلس كلية التمريض/ جامعة بابل كجزء من
متطلبات نيل درجة الدكتوراه فلسفة في علوم التمريض

من قبل

حسين منصور علي التميمي

بأشراف

الاستاذ الدكتور أمين عجيل ياسر الياسري
و
الأستاذ الدكتور قحطان هادي حسين الجبوري

تموز ٢٠٢١ ميلادية ذو القعدة ١٤٤٢هجرية